DOCUMENT RESUME

ED 037 405 SP 003 698

AUTHOR	Tyler, Louise L.
TITLE	A Selected Guide to Curriculum Literature: An Annotated Bibliography.
INSTITUTION	National Education Association, Washington, D.C. Center for the Study of Instruction.
PUB DATE	70
NOTE	138p.
AVAILABLE FROM	Publications-Sales Section, National Education Association, 1201 16th Street, N.W., Washington, D.C. 20036 (Stock No. 381-11628, $2.00)
EDRS PRICE	EDRS Price MF-$0.75 HC Not Available from EDRS.
DESCRIPTORS	*Annotated Bibliographies, *Curriculum, *Curriculum Design, Curriculum Evaluation, Curriculum Planning, Curriculum Research, *Educational Objectives, Educational Theories, Literature Reviews

ABSTRACT

This annotated bibliography on curriculum is the third publication of the auxiliary series to "Schools for the 70's--and Beyond," a publication and action program of NEA's Center for the Study of Instruction. Addressed principally to curriculum specialists and to university and school researchers, it is designed "to serve as an intellectual instrument to enable the reader to understand the character and direction of curriculum as it currently exists, to engage in dialogue, and then to redirect some of the formulation of ideas about curriculum." The author has followed a systematic method of analysis of each selected citation and further has organized the annotations according to a stated conceptualization of curriculum. The prime considerations for selection of references were: representation of some important intellectual idea in the field of curriculum and an observable degree of influence upon curriculum persons. The four chapters of the book are (1) An Introduction; (2) A View of the Curriculum (which provides a general commentary, an eight-part outline of topics and references, and cross-references related to the topics); (3) Annotations (which offers a three-part commentary on each of the 68 references--i.e., structure, interpretation, and criticism--as well as relationships to other authors); and (4) Considerations for Tomorrow (which summarizes some promising directions now appearing in curriculum literature and some needs in the field). (JES)

A SELECTED GUIDE TO CURRICULUM LITERATURE: AN ANNOTATED BIBLIOGRAPHY

Louise L. Tyler
Associate Professor of Education
University of California
at Los Angeles

ED037405

PROCESS WITH MICROFICHE AND PUBLISHER'S PRICES. MICROFICHE REPRODUCTION ONLY.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

Published by the National Education Association
Center for the Study of Instruction (CSI)

SP003698

SCHOOLS FOR THE 70'S

AUXILIARY SERIES

Permission to reproduce this copyrighted work has been granted to the Educational Resources Information Center (ERIC) and to the organization operating under contract with the Office of Education to reproduce documents included in the ERIC system by means of microfiche only, but this right is not conferred to any users of the microfiche received from the ERIC Document Reproduction Service. Further reproduction of any part requires permission of the copyright owner.

Copyright © 1970
National Education Association

Library of Congress Catalog Card No. 78-117515

Single copy, $2. Stock No. 381-11628. Discounts on quantity orders: 2-9 copies, 10 percent; 10 or more copies, 20 percent. Orders accompanied by payment will be sent postpaid. Shipping and handling charges will be added to billed orders. All orders of $2 or less must be accompanied by payment. Order from Publications-Sales Section, National Education Association, 1201 Sixteenth Street, N.W., Washington, D. C. 20036.

To

John I. Goodlad

A clarifying, accepting, encouraging colleague

CONTENTS

Foreword 1

Preface 3

1. Introduction 5

Underlying Ideas 5

The Process of Annotation 7

2. A View of Curriculum 9

Commentary 9

Topics in Curriculum 14

Outline of Topics and Selected References 21

3. Annotations: Structure, Interpretation, and Criticism 27

4. Considerations for Today and Tomorrow 125

Appendix

1. Author Index to Annotated References 129

2. Title Index to Annotated References 132

3. Contributors to References 135

Mankind likes to think in terms of extreme opposites.

But what goes on inside the learner is life itself, not a curriculum as we have defined one.

What matters is not to win the argument but to learn the truth.

There is no book so bad that nothing good can be found in it.

It is sometimes useful to remember that the train lost its first race to the horse.

We have, to use an insightful but badly miscast analogy, at least encouraged the drunk to look for his quarter where he dropped it, and not where the light is best.

FOREWORD

A Selected Guide to Curriculum Literature: An Annotated Bibliography by Louise L. Tyler is the third publication of the auxiliary series to SCHOOLS FOR THE 70's – AND BEYOND, a major publication and action program of the National Education Association's Center for the Study of Instruction (CSI).* This auxiliary series is addressed principally to curriculum specialists and to university and school researchers in an attempt by the organized profession to facilitate the dialogue about and inquiry into curriculum.

SCHOOLS FOR THE 70's has two other parts: a comprehensive, single-volume, multimedia report and action program; and a preliminary series of publications by recognized experts in the educational arena which are addressed to the major issues confronting educators today.

This bibliography includes much more than the usual listing of references and brief annotations one has come to expect from such publications. Professor Tyler has followed a systematic method of analysis of each selected volume or periodical and further has organized the annotations according to a stated conceptualization of curriculum. Here, then, is an intellectual fabric whose wholeness is apparent and in which relations among and between its various threads are clear.

Disagreements are likely to arise about the interpretation of various inclusions in this volume but, in the best sense, disagreement can be a characteristic of good dialogue. It is the hope of CSI that students of curriculum as well as scholars and practitioners will prove the usefulness of such dialogue prompters as Professor Tyler's contribution to SCHOOLS FOR THE 70's – AND BEYOND.

Lois Edinger, *Chairman*
CSI Advisory Committee

Ole Sand, *Director*
CSI

---

*The other two publications in this auxiliary series are *The Practical: A Language for Curriculum* by Joseph J. Schwab and *The Study of Curriculum Plans* by Arlene Payne.

PREFACE

This annotated bibliography on curriculum is a consequence of several happenings. First, I participated in some of the intellectual disagreements about objectives in the field of curriculum. Then the appearance of Robert Anderson's *Bibliography on Organizational Trends in Schools* led me to think that possibly what was needed was a bibliography on curriculum. Finally, as a result of conversation about the objectives controversy, Ole Sand and I concluded that an annotated bibliography in curriculum would be useful. As a result, the director of the NEA Center for the Study of Instruction (CSI) requested that I prepare this document.

The framework and ideas of this volume are a result of my education at the University of Chicago. It has provided the ground plan from which my ideas and my selection of colleagues, activities, and values all continue to emerge.

Unfortunately, it is not possible to be completely objective when one author is responsible for a conception of an area of knowledge. Certainly the whole organization of topics of this bibliography is an implicit evaluation of curriculum. This might appear in the leading propositions and basic terms selected from the references. However, in the last analysis, each reader will have to judge my objectivity for himself.

I am very grateful to a group of colleagues who helped me with a core of references selected for this volume. They are members of a group which first met in connection with the American Educational Research Association and again at the NEA Center for the Study of Instruction to discuss curriculum theory. Also, Gary Griffin, formerly of the /I/D/E/A/ staff and now with CSI, has made significant contributions in the development of the volume.

Although it is probably unnecessary, I feel compelled to say that what you approve in this volume I hope will be credited to my institution and my colleagues and what you disapprove will be credited to me.

Louise Tyler

1. Introduction

UNDERLYING IDEAS

The wish basic to this annotated curriculum bibliography is that it serve as an intellectual instrument to enable the reader to understand the character and direction of curriculum as it currently exists, to engage in dialogue, and then to redirect some of the formulation of ideas about curriculum. Dialogue is considered to be a desirable behavior. The meaning of dialogue can be clarified by a quotation from Fromm:

> A second requirement for the functioning of all face-to-face groups is *debate*. Through the increasing mutual knowledge of the members, the debate will lose an acrimonious and slogan-throwing character and will become a *dialogue* between human beings instead of a disputation. While there will always be fanatics and more or less sick as well as stupid people who cannot participate in this kind of debate, an atmosphere can be created which, without any force, eliminates the effectiveness of such individuals within the group. It is essential for the possibility of a dialogue that each member of the group not only try to be less defensive and more open, but also that he try to understand what the other person means to say rather than the actual formulation he gives to his thought. In every fruitful dialogue, each participant must help the other to clarify his thought rather than to force him to defend formulations about which he may have his own doubts. Dialogue implies always mutual clarification and often even understanding the other better than one understands oneself.*

Hopefully, this small volume will facilitate dialogue about curriculum. If these materials are read and discussed in a meaningful fashion, the ideas which will then emerge will redirect the work in the field.

Chapter 2, "A Conception of Curriculum," was written to promote dialogue about important ideas. The form of the chapter is patterned after the presentation of ideas in the *Syntopicon*.**

---

*Fromm, Erich. *The Revolution of Hope*. New York: Harper & Row, 1968.

**Encyclopaedia Britannica. *The Great Ideas: A Syntopicon of Great Books of the Western World*. (Published by William Benton.) Chicago: Encyclopaedia Britannica, 1952, Vol. I, 1082 pp.; Vol. II, 1346 pp.

The references selected for annotation in Chapter 3, "Annotations: Structure, Interpretation, and Criticism," are all significantly related to curriculum as a field of study—most directly, some indirectly. In an attempt to include the major influences on curriculum workers and writers, suggestions were solicited from a group of colleagues who were requested to note the five books and/or articles which had been most powerful as they pursued their own inquiry. I then made my final selection from their recommendations.

It should be obvious that the selection process depends in large measure upon the availability of material and the judgment of the annotator. I would like to be able to say that I have been totally objective, but no mind, least of all a seasoned one, can be without convictions. The list of references, then, reflects the major concepts or propositions of curriculum as a field of inquiry *as I view the field and to the extent that that view is represented by books and articles.* This is not to say that varying value positions within the field are not represented. They are. In fact, because many of the references were suggested by colleagues who subscribe to different conceptions of curriculum, there will naturally be present contradictory positions, issues, and solutions.

Within the framework presented above, the prime considerations for selection were (a) representation of some important intellectual idea in the field of curriculum and (b) an observable degree of influence upon curriculum persons. In using these two considerations as criteria, I am aware that some readers will be dismayed at the inclusion of some references and the exclusion of others, but I also hope that the careful reader will become aware of the relations among the references as well as of the presence of truths, errors, overstatements, understatements, misinformation, and illogical contentions.

This volume will not spare the reader from reading the materials presented, but it may facilitate some understanding of those references and help him to select for further study the ones which he thinks will be most useful to him.

Parts of Chapter 3, "Annotations: Structure, Interpretation, and Criticism," and Chapter 4, "Considerations for Today and Tomorrow," will be departures from a fairly objective stance. Evaluation of the references will be included in Chapter 3, while in Chapter 4 a brief statement will be directed to curriculum needs and to promising avenues for future inquiry.

THE PROCESS OF ANNOTATION

Clarity and precision are, or should be, two goals for anyone who engages in the process of annotation. In order to arrive at, and maintain, these standards in this volume, I have chosen to use some of the basic ideas formulated by Mortimer J. Adler.*

According to Adler, there are three ways in which a book must be read. The first way is structural or analytic, the second is interpretative, and the third is critical or evaluative.** Each has several steps which are called rules. The first two are related and help the reader understand an article or book. The third type is a criticism or judgment about the material. Obviously, it cannot be done before the first and second.

One difficulty is that materials must be read in relation to one another. Materials which treat the same subject matter should be read in relation to each other and probably cannot be understood alone until they have been compared and contrasted.

Adler suggests finally that the reader make an analysis of a book's structure by classifying it according to kind and subject matter, be able to briefly state what the book is about, know the book's major parts in their order and relation, and define the problem the author is attempting to solve. *Interpretation*, the second way to read a book, depends upon interpreting the author's words, grasping the book's leading propositions and knowing the author's arguments regarding them, and determining the degree to which each of the problems was solved. *Criticism* is based upon analysis and interpretation and shows the difference between fact and opinion as well as using specific criteria for criticism—lack of information, misinformation, illogic, incompleteness.

It is this kind of reading which is the basis for the bulk of the annotative comments in Chapter 3. The exceptions are the brief annotations of encyclopaedias, reviews, or collected works.

---

*Adler, Mortimer J. *How To Read a Book*. New York: Simon and Schuster, 1963.
**Ibid., p. 124.

2. A View of Curriculum

This chapter consists of a commentary, an outline of topics and references, and cross-references related to the topics.

Basic notions concerning curriculum are elaborated in the commentary and then reflected in the outline of topics and references. An attempt has been made to treat the ideas with regard to their meaning, with regard to their relationship to each other, and with regard to their agreement and disagreement. Also, an attempt has been made to present the issues, questions, problems, and positions on these matters impartially.

Parts of the commentary may vary in clarity for the reader because at times such statements as "Tyler's four questions" or "Mager's criteria" are used as a kind of shorthand. When this happens, however, one can find the original topic in the outline and go from there to the references where the idea is first discussed.

Hopefully, the commentary will serve as a stimulus to read some of the materials presented in the annotations. Most of the annotated references include bibliographies which, again hopefully, the reader will also wish to pursue.

COMMENTARY

CONCEPTION OF CURRICULUM

Curriculum, until recently, has been conceived as an ends-means process. Tyler's syllabus, which appeared in its present form in 1950, has been a focus for much discussion. In some cases (for example, Goodlad) there has been acceptance of Tyler as far as he has gone but a necessity to be more comprehensive has emerged. In other cases (Macdonald, Huebner) there is criticism of the technical conception and some suggestions for other directions.

Tyler's well-known four questions are "1. What educational purposes should the school seek to attain? 2. What educational experiences can be provided that are likely to attain these purposes? 3. How can these educational experiences be effectively organized?

4. How can we determine whether these purposes are being attained?"* Goodlad also accepts these questions in his conceptual system, but in a different framework. He accepts the ends-means notion, although postulating that curriculum planning occurs at several levels of remoteness from the learner and, in addition, is carried on by a wide variety of individuals. These levels have been termed the *instructional* (decisions primarily the responsibility of a teacher or a team of teachers guiding a specific group of learners), the *institutional* (decisions primarily the responsibility of total faculty groups under the leadership of administrators), and the *societal* (decisions the responsibility of lay boards and legislators of local, state, and federal government). Goodlad has proposed that ends-means decisions be carried out at all three levels.

In addition, he elaborates considerably on values and the valuing process in curriculum, making explicit what Tyler referred to only briefly. Furthermore, he frequently utilizes the term *rational*, which, when defined explicitly, has significance for the field of curriculum.

The ends-means approach has been criticized on the basis that Tyler's is a technical system and that it is incomplete. Two writers, Macdonald and Huebner, have raised questions about the rationality and the technical aspects of the ends-means conception. In his discussion of myths of instruction, Macdonald takes the position that the central premise of rationality cannot withstand careful scrutiny. He indicates that we have learned too much about the irrational and/or unconscious aspects of behavior for this conception to have much validity. Instead, he suggests the use of aesthetic and moral metaphors. Huebner suggests that curriculum inadequacies can be partially corrected by a conception of curriculum which is a design of an educative environment in which valued educational activity can occur. His discussion centers on aesthetic and ethical rationality.

The most recent voice to speak to a conception of curriculum is that of Schwab. His argument is that there will be a renascence of the field of curriculum only if the bulk of curriculum energies is diverted from the theoretic to the practical, to the quasi-practical, and to the eclectic. In attempting to come to terms with Schwab and his ideas, readings from the *Syntopicon* are particularly valuable. The sections on science, art, and medicine discuss issues of theory, of science, of art, and of the relationship between art and science—all of which are basic to Schwab's notions.

---

*Tyler, Ralph W. *Basic Principles of Curriculum and Instruction*. Chicago: University of Chicago Press, 1950. pp. 1-2.

Conceptions about curriculum and its topics can be found in certain particular educational publications. Four sources of information about curriculum are useful. They are the National Society for the Study of Education Yearbooks, the Association for Supervision and Curriculum Development Yearbooks, the publications of the NEA Center for the Study of Instruction, and the journal *Educational Leadership.*

Definitions

Some writers view the definition of terms as basic to the field. The defining of terms sometimes appears to be an easy intellectual task. However, it is not. The chapter on definition in the *Syntopicon* is essential for coping with questions as to the purpose and limits of defining as well as methods of defending definitions.

Some writers agree with Beauchamp, who indicates that a man is obligated as a scientist to carefully define his terms and to use them consistently in his work thereafter. Two who are represented in this volume are Mauritz Johnson, Jr., and John I. Goodlad. According to Johnson, curriculum is designed as a structured series of intended learning outcomes. Goodlad defines curriculum as a set of intended learnings.

It is of interest, however, to note, as pointed out in the *Review of Educational Research,* that no matter how curriculum is defined, the definition does not affect significantly the kinds of questions and problems dealt with by the field itself.

Rationales and Conceptual Systems

An attempt has been made by some investigators to conceptualize the field of curriculum. Tyler began, in a more thorough way than had been done before, to outline a rationale for viewing, analyzing, and interpreting the curriculum and instructional program of an educational institution. This rationale appears in the syllabus, *Basic Principles of Curriculum and Instruction,* and outlines the four basic questions frequently referred to in the literature. Goodlad has formulated a conceptual system designed to identify and reveal relationships among the complex, related, interacting phenomena of curriculum. He has emphasized rationality, values, levels of decision, and methods of inquiry. This system is elaborated in the difficult-to-obtain *Development of a Conceptual System for Dealing with Problems of Curriculum and Instruction.*

Two writers, Faix and Huebner, present views that may have value for reflecting on curriculum rationales and systems. Faix views curriculum in the light of concepts of structure-function as derived from biology, sociology, and anthropology. This kind of thinking results in statements such as "a curriculum is in effect an outcome or product of its component subsystems. That is, when we bring together as inputs personalities, communication mechanisms, knowledge, and values, the resultant interplay of forces yields a curriculum system."* Huebner's presentation in *Curriculum as a Field of Study* elaborates upon morality and aesthetic considerations as central issues in curriculum planning.

Education as a Field of Inquiry

Inquiry into curriculum has not existed in a very self-conscious way until recently. Furthermore, the nature of that inquiry often gives rise to considerable controversy. It is in this arena of scholarly inquiry into education and curriculum that all the old issues arise as to whether education is an art, a science, an art based upon science, or something else.

Goodlad, in his 1968 presidential address to the American Educational Research Association, highlighted the relationship of thought, invention, and research in the advancement of education. He proposed an interplay between the theoretical-deductive and the empirical-inductive modes of thought. Educational practices were seen as providing both the problems for educational inquiry and the field for testing and verifying conclusions. Furthermore, he indicated the consequences of demanding research on an invention as a prerequisite to its creation.

In somewhat the same critical manner, Robert Ebel indicates some of the limitations of basic research in education. He argues that its past performance is poor, that the difficulties are not likely to be overcome in the foreseeable future, and that education is not a natural phenomenon similar to physics, chemistry, geology, and so forth.

Two articles which elaborate on principles or models as a basis for curriculum and instruction are those of Skinner and Carroll. The 1954 article by Skinner explores the implications for classroom

---

*Faix, Thomas L. "Structural-Functional Analysis as a Conceptual System for Curriculum Theory and Research: A Theoretical Study." Paper presented at the annual meeting of the American Educational Research Association, Chicago, February 1966.

teaching of some of the recent inquiry into the psychology of learning. Carroll's model, elaborated in "A Model for School Learning," indicates some more implications. Benjamin S. Bloom's article is about the development of a strategy based upon this model of school learning.

Beauchamp, however, in the only volume yet written on curriculum theory, makes a case for theory and places curriculum inquiry in the framework of the applied behavioral sciences. Another illustration of the importance of theory is a report written by a commission of the Association for Supervision and Curriculum Development which formulated criteria for theories of instruction. This commission, like Beauchamp, accepted a scientific model for the formulation of criteria.

Schwab's position is that the field of curriculum is moribund because of its unexamined reliance on inappropriate theory. Moreover, even if appropriate, theory is inadequate to the tasks which curriculum sets. One example is indicated in this statement:

> A curriculum based on theory about individual personality which thrusts society, its demands and its structure, far into the background, or ignores them entirely, can be nothing but incomplete and doctrinaire, for the individuals in question are in fact members of a society and must meet its demands to some minimum degree since their existence and prosperity as individuals depends on the functioning of their society.*

Throughout writings on education and/or curriculum is the question of the relationship of theory and practice. The importance of theory is clearly indicated by Caswell, who states:

> The basic theory which is accepted, should after all, be the most important determinant of the curriculum. Theory which does not reach the action level fails in the central function which it should serve.**

However, both Macdonald and Schwab have elaborated on the difficulties of translating or supplementing theory and maintaining its value. Fenstermacher has dealt with the problem of how (intellectually) one goes from a theory to practice. He utilizes a principle

---

*Schwab, Joseph J. "The Practical: A Language for Curriculum." Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, California, February 1969. (Also published by the NEA Center for the Study of Instruction.)

**Caswell, Hollis L. "Sources of Confusion in Curriculum Theory." *Toward Improved Curriculum Theory*. (Edited by Virgil Herrick and Ralph Tyler.) Chicago: University of Chicago Press, 1950. pp. 110-17.

from need-achievement theory and elaborates in great detail upon what is involved. His paper also discusses practice as meaning a range or class of behaviors or activities that is bound by a rule. He refers to Kant's position that an act of judgment is the link between the rule and the behavior. Black's paper on "The Analysis of Rules" is also of value in inquiry into the relation between theory and practice.

The booklet by Joyce, as well as the volume by Broudy, Smith, and Burnett, suggests that school programs focus on the practice rather than the theory. The Broudy volume presents a design for a high school curriculum, and Joyce puts forth a design for bringing together man, media, and machines. While theoretical positions underlie these two publications, there are further present some inventions for practice.

TOPICS IN CURRICULUM

Objectives

Most discussion of objectives in the curriculum literature deals with overworked, although important, aspects of aims and objectives. Jacques Maritain's *Education at the Crossroads*, however, is a provocative elaboration of the nature of man and the task of education. Aims of education are discussed from both a philosophical and a religious viewpoint.

Except for Maritain, discussion of the importance of objectives appears to be academic. The great extent to which they are written about, pro and con, indicates the vital importance of the topic. As evidence, the most recent in the AERA curriculum monograph series is titled *Instructional Objectives* and has chapters dealing with objectives and instruction, objectives, evaluation and improved learner achievement, instructional and expressive objectives, and the formulation of objectives from a psychoanalytical framework. A second AERA monograph, *Evaluation Activities of Curriculum Projects*, reports that a middle stance is taken about behavioral objectives and that even projects most concerned with behavioral statements do not ignore evaluative evidence simply because it is not germane to their list of specified behavioral objectives.

The matter of how objectives are to be stated has received considerable attention. The concern for clear statements of objectives, because of their functions in the selection of learning opportunities and evaluation methods, has been with educators for some time.

Bobbitt might be thought of as the grandfather of specificity, although it is Mager's volume which has received most attention from educators. Mager's three criteria have been widely accepted and include conditions and standards of attainment. Tyler, in his syllabus, presented a way of stating objectives that differs considerably from Mager. Tyler's earlier statement is mainly concerned with clarity and the necessity of indicating behavior and content. All objectives are to be stated in terms of the learner's behavior. Herrick's suggestions about outlining the essential components of objectives add to the clarity of definition.

Most of the discussion about objectives has dealt with how they need to be stated to function effectively, but little has been said about how objectives can be derived. In Ralph Tyler's syllabus a very comprehensive procedure is outlined for formulating objectives. This procedure suggests looking at the learner, at society, and at subject matter. Objectives which have been inferred from these sources must be checked for consistency with a philosophic position and for feasibility based upon psychology. Goodlad supplements Tyler's formulation by adding the value dimension in even the initial step of looking at the learner, society, and subject matter. A specific formulation based upon a psychoanalytic framework has been proposed by Louise Tyler. Barton also elaborates on value theory in determining objectives. Bobbitt looks at the activities of adults as a basis for inferring objectives for learners. Many of the recent national curriculum projects have also focused on the structure of the disciplines as basic to the formulation and selection of objectives.

Because objectives have been accepted by some educators, an attempt has been made to develop taxonomies. There have been three: one in the cognitive domain, one in the affective domain, and one in the psychomotor domain. Much use has been made of the cognitive taxonomy, much less of the affective, and little of the psychomotor. Loree has elaborated upon the relationships between the three domains and suggests various ways to search for still other relationships. One means to achieve this is to accept the premise that all behaviors have a cognitive, an affective, and a behavioral component and that it is useful to identify the stimulus, the mediating process, and the overt responses of the objective.

Knowledge—Structure of the Disciplines

Some articles and much, much discussion about the disciplines have appeared in a very self-conscious way for some time. Some of

the names that have appeared frequently in this discussion are those of Phenix, Schwab, Bellack, and Bruner.

Key Concepts and the Crisis in Learning, edited by Phenix, appeared in 1956 and was a first statement of how analysis of the structure of the disciplines might be useful in solving a crisis in learning. In it Bruner reported on a conference which was much concerned with the importance of structure, intuitive and analytic thinking, readiness, and motives for learning. Considerable attention was given to Piaget and Inhelder in this volume.

Schwab's article on structure and meaning outlines many of the basic notions about the syntax and conceptual structures of the disciplines. Bellack helps in formulating questions with which a curriculum theorist could deal.

An implementation of some of the ideas about the structure of knowledge appears in the Broudy, Smith, and Burnett volume.

Curriculum and Instructional Materials

The field of curriculum has been influenced greatly by the various projects which have been funded by private and public agencies. Fraser, in *Current Curriculum Studies in Academic Subjects*, provided a first report on the new curriculum developments. Two reports which followed, *School Curriculum Reform* by Goodlad and *The Changing School Curriculum* by Goodlad, von Stoephasius, and Klein, are additional sources of information, criticism, and suggestions for curriculum development. There has been discussion of these projects around accepted curriculum phenomena such as aims and objectives, organization, evaluation, and instruction. A conclusion is that an important question—What kind of persons do we wish our schools to produce?—has seldom been asked.

Curriculum guides and courses of study have been developed by school districts but have received little systematic analysis. Payne has outlined concepts and procedures for analyzing curriculum guides.

Most of the curriculum projects have involved the development of an instructional package. On what basis instructional materials have been developed is not made explicit, nor have principles or rules generally been made explicit. Popham and Baker have formulated a set of rules which has been intuitively derived by experienced product developers.

Along with the development of instructional materials, films, filmstrips, and programed materials, educators have become in-

creasingly concerned with their effectiveness. As a consequence, several documents have emerged. One is a publication titled *Recommendations for Reporting the Effectiveness of Programed Instructional Materials.* Another is "Recommendations for Curriculum and Instructional Materials." Both of these documents are rooted in an ends-means, empirical conception of curriculum.

It can be expected that attempts will be made to evaluate curriculum materials according to the recommendations. One such example is a review of one curriculum project, the School Health Education Study, which was reported in *Educational Leadership.* (Other articles having to do with evaluation are those of C. R. Pace and R. Stake, which are discussed later.)

The Relation of Teaching and Learning

Whenever teaching-learning is discussed, curriculum is always referred to directly or indirectly. A most influential volume is John Dewey's *Experience and Education,* written in 1938. Dewey exposits a theory of experience for dealing with problems of teaching and learning and elaborates on the two criteria for experience—continuity and interaction. A well-known statement of his is that "mankind likes to think in terms of either-or's." Dewey's chapters on "Social Control" and "Progressive Organization of Subject Matter" discuss teachers' roles and subject matter. It appears that Dewey's ideas on these topics have been much misunderstood.

Goodlad's report for the NEA Project on Instruction is a discussion of teaching as well as a series of recommendations. It includes school organization, classroom organization, curriculum organization, and personnel. Each of the factors is shown in relation to the others.

Herrick's discussion of the *organizing center*—the term may cause some confusion—is basic to the selection or formulation of specific learning opportunities.

Raths has outlined a theory about values and a methodology which implements his theory. Bloom's article, "Learning for Mastery," outlines a strategy based upon Carroll's model for learning that is a practical application of theory to practice. Joyce's booklet also describes the relationship between teaching and learning as it is affected by the interaction of man, media, and machines.

Schwab, in *College Curriculum and Student Protest,* indicates indirectly many implications for a teacher's behavior at the college level.

Organization

Very little empirical work has been done on organization of the curriculum, but theoretical chapters and articles have appeared. Tyler, in his syllabus, outlined function, criteria, organization principles, and organizing structure. Alice Miel introduces one way of viewing organization which highlights the internal aspects of organization.

Evaluation

The importance of evaluation as an essential component of curriculum was postulated by Tyler in the early 1930's. A general statement on evaluation by him appeared in the *Journal of Educational Research* in 1942. This is a succinct statement of purpose, assumptions, and procedures. In his syllabus for curriculum and instruction, evaluation was included as a question basic to curriculum planning. At about the same time, Buros began publishing the *Mental Measurements Yearbooks*, which have developed from being bibliographies of recently published tests in 1933 and 1934 to a mammoth volume in 1965 of 1,714 pages. The latter included critical reviews of tests and books in measurement, as well as other relevant information. To some, Buros' *Mental Measurements Yearbook* is a Bible to be followed.

Another document basic to evaluation has emerged from a joint committee of APA, AERA, and NCME in 1966. This publication, *Standards for Educational and Psychological Tests and Manuals*, has had a 15-year history. Basically, it is concerned with elaborating upon, and seeing utilized, standards pertaining to dissemination of information, interpretation, validity, reliability, administration and scoring, and scales and norms.

While evaluation began as a relatively minor component of curriculum, it is emerging as a major facet of American education. Schooling has become an instrument of social control and change, and it is essential to know how good it is and where it needs improvement. A monograph series has been developed, a research and development center has been funded, yearbooks have been issued. The first AERA monograph, *Perspectives of Curriculum Evaluation*, was written by Tyler, an educator, Gagné, a psychologist, and Scriven, a philosopher. Hulda Grobman's monograph recounts experiences with curriculum evaluation in relation to objectives, problems of sampling, and so forth. The attention that evaluation has been receiving has not excluded concern and criticism from

the field. One consequence of this concern has been a publication by the Department of Elementary School Principals and the Center for the Study of Instruction which has presented information about one assessment project.

With the shift in focus on evaluation from the periphery to the center, two writers have presented positions which are receiving attention. R. Stake's is a comprehensive conception involving description and judgment about antecedents, transactions, and outcomes. C. R. Pace makes a historical summary and takes the position that evaluation should be carried on from a scientific stance.

Attention is being drawn to the volume by Webb, Campbell, Schwartz, and Sechrist, which was written to facilitate the broadening of the narrow range of methodologies utilized by social scientists.

The Individual and the Curriculum

Recently, John Goodlad has indicated that the question of what kinds of persons we wish our schools to produce has scarcely been asked in curriculum. But Goodlad indicates that it should be made the focal point of tomorrow's curriculum deliberations. If so, looking to conceptions of man and man's nature could be profitable.

A first source to be explored is Freud. His materials are easy to locate; the most accurate are those published in the Hogarth edition. For many, Erik Erikson presents a more comprehensible conception of man in *Childhood and Society*. He elaborates on a series of stages which can be described in terms of polarities: trust *vs.* mistrust; autonomy *vs.* shame and doubt; initiative *vs.* guilt; industry *vs.* inferiority; identity *vs.* role confusion; intimacy *vs.* isolation; generativity *vs.* stagnation; ego integrity *vs.* despair.

This conception of personality has been utilized by Louise Tyler in one article, "Learning and Personality." A psychoanalytic framework was also used in formulating objectives and was discussed in the third AERA curriculum monograph.

Schwab's book, *College Curriculum and Student Protest*, is an exposition of some characteristics of college students and how the curriculum might alleviate some dis-ease.

Curriculum and the State

Few articles deal with the relationship that exists or should exist between the curriculum and the state. Goodlad, in *The Changing School Curriculum*, does make some suggestions about what is needed for successful curriculum reform:

1. A much more precise delineation of local, state, and federal responsibilities for curriculum planning;
2. More curriculum study centers engaged in curriculum planning designs for the whole length and breadth of pre-collegiate education;
3. A number of truly experimental schools in every state.*

These suggestions would help to clarify relationships between the curriculum and the state. Other readings in this area can be located in the chapter on education in the *Syntopicon* under "Education and the State."

Curriculum Scholars

Very little has been written about the development of curriculum scholars. However, three of the annotations here make some reference to this matter.

Barton suggests that a solution to the problem of determining objectives is to educate individuals at the various levels—the practical, the theoretical, the metatheoretical—who are able to communicate with one another. Caswell indicates that too often an attitude of protagonist and antagonist has prevailed in curriculum theory discussions rather than an earnest seeking of a more satisfactory solution to a problem. It is essential, according to him, to discover areas of agreement and disagreement. Huebner suggests that the study of curriculum should be a development of the artistry needed to design a just and moral educational environment.

---

*Goodlad, John I.; Stoephasius, Renata von; and Klein, M. Frances. *The Changing School Curriculum*. New York: Fund for the Advancement of Education, 1966. p. 18.

OUTLINE OF TOPICS AND SELECTED REFERENCES*

I. Conceptions of curriculum
   A. Curriculum as an ends-means process
      Tyler, Ralph W. *Basic Principles of Curriculum and Instruction*
      Goodlad, John I., with Richter, Maurice N. *The Development of a Conceptual System for Dealing with Problems of Curriculum Instruction*
      1. Curriculum planning and rationality
         Tyler, Ralph W. *Basic Principles of Curriculum and Instruction*
         Goodlad, John I., with Richter, Maurice N. *The Development of a Conceptual System for Dealing with Problems of Curriculum Instruction*
      2. Inadequacy of curriculum as an ends-means process
         Macdonald, James B. "Myths About Instruction"
         Huebner, Dwayne. "Curricular Language and Classroom Meanings"
         Huebner, Dwayne. "Curriculum as a Field of Study"
   B. Curriculum conceived of as aesthetic, ethical, and practical
      Macdonald, James B. "Myths About Instruction"
      Huebner, Dwayne. "Curricular Language and Classroom Meanings"
      Huebner, Dwayne. "Curriculum as a Field of Study"
      Schwab, Joseph J. "The Practical: A Language for Curriculum"
   C. Issues underlying conceptions of curriculum
      Encyclopaedia Britannica. *The Great Ideas*. Chapters on "Science," "Art," and "Medicine"
      National Society for the Study of Education. *Yearbooks*
      Association for Supervision and Curriculum Development. *Yearbooks*
      Center for the Study of Instruction. Major Reports of the Project on Instruction
II. Definitions and the field of curriculum
   A. The importance and nature of definitions

---

*A reference may be relevant to more than one of the topics in the outline. When this occurs, the book or article is referred to each time it is appropriate to do so. The annotations are also listed in alphabetical order by author and title in the appendix.

Encyclopaedia Britannica. *The Great Ideas*. Chapter on "Definitions"

B. The need for definitions
   Beauchamp, George A. *Curriculum Theory*
   Johnson, Mauritz, Jr. "Definitions and Models in Curriculum Theory"

C. Some examples of definitions
   Johnson, Mauritz, Jr. "Definitions and Models in Curriculum Theory"
   Goodlad, John I., with Richter, Maurice N. *The Development of a Conceptual System for Dealing with Problems of Curriculum Instruction*

D. Definitions as a function of curriculum literature
   American Educational Research Association. *Review of Educational Research*

III. Systematic approaches to curriculum planning

A. A rationale and a conceptual system for curriculum and instruction
   Tyler, Ralph W. *Basic Principles of Curriculum and Instruction*
   Goodlad, John I., with Richter, Maurice N. *The Development of a Conceptual System for Dealing with Problems of Curriculum Instruction*

B. Examples of particular systems for curriculum and instruction
   Faix, Thomas L. "Structural-Functional Analysis as a Conceptual System for Curriculum Theory and Research: A Theoretical Study"
   Huebner, Dwayne. "Curriculum as a Field of Study"

IV. Theory and research in curriculum

A. Education as a field of inquiry
   Goodlad, John I. "Thought, Invention, and Research in the Advancement of Education"

B. Inadequacy of basic research in education
   Ebel, Robert. "Some Limitations of Basic Research in Education"

C. Examples of particular theories and their implications for curriculum
   Skinner, B. F. "The Science of Learning and the Art of Teaching"
   Carroll, John B. "A Model of School Learning"
   Bloom, Benjamin S. "Learning for Mastery"

D. Theory needed in curriculum
   Beauchamp, George A. *Curriculum Theory*
   Association for Supervision and Curriculum Development. *Criteria for Theories of Instruction*
E. Inadequacy of theory in curriculum
   Schwab, Joseph J. "The Practical: A Language for Curriculum"
F. Relationship of theory and practice
   Caswell, Hollis. "Sources of Confusion in Curriculum Theory"
   Macdonald, James B. "Myths About Instruction"
   Schwab, Joseph J. "The Practical: A Language for Curriculum"
   Fenstermacher, Gary. "Need-Achievement Theory and Educational Practice: A Transformation"
   Black, Max. *Models and Metaphors*
   Joyce, Bruce. *The Teacher and His Staff: Man, Media, and Machines*
   Broudy, Harry S.; Smith, B. Othanel; and Burnett, Joe R. *Democracy and Excellence in American Secondary Education*

V. Topics of curriculum
   A. Objectives
      1. Importance and utilization of objectives
         Maritain, Jacques. *Education at the Crossroads*
         American Educational Research Association. *Instructional Objectives*
         American Educational Research Association. *Evaluation Activities of Curriculum Projects*
      2. Statement of objectives
         Bobbitt, Franklin. *How To Make a Curriculum*
         Mager, Robert F. *Preparing Instructional Objectives*
         Tyler, Ralph W. *Basic Principles of Curriculum and Instruction*
         Herrick, Virgil E. *Strategies of Curriculum Development*
      3. Formulation of objectives
         Tyler, Ralph W. *Basic Principles of Curriculum and Instruction*
         Goodlad, John I., with Richter, Maurice N. *The Development of a Conceptual System for Dealing with Problems of Curriculum and Instruction*
         American Educational Research Association. *Instructional Objectives*

Barton, George E., Jr. "Educational Objectives—Improvement of Curricular Theory About Their Determination"

Bobbitt, Franklin. *How To Make a Curriculum*

Goodlad, John I.; Stoephasius, Renata von; and Klein, M. Frances. *The Changing School Curriculum*

4. Classification of objectives

Bloom, Benjamin S. *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain*

Krathwohl, David; Bloom, Benjamin S.; and Masia, Bertram. *Taxonomy of Educational Objectives, Handbook II: Affective Domain*

Simpson, Elizabeth Jane. "The Classification of Educational Objectives, Psychomotor Domain"

Loree, M. Ray. "Relationship Among Three Domains of Educational Objectives"

B. Structure of disciplines—knowledge

Phenix, Philip. "Key Concepts and the Crisis in Learning"

Bruner, Jerome S. *The Process of Education*

Schwab, Joseph J. "Structure of the Disciplines: Meanings and Significances"

Bellack, A. "Knowledge Structure and the Curriculum"

Broudy, Harry S.; Smith, B. Othanel; and Burnett, Joe R. *Democracy and Excellence in American Secondary Education*

C. Curriculum and instructional materials

1. Curriculum projects and development of instructional materials

Fraser, Dorothy. *Current Curriculum Studies in Academic Subjects*

Goodlad, John I.; Stoephasius, Renata von; and Klein, M. Frances. *The Changing School Curriculum*

Payne, Arlene. *The Study of Curriculum Plans*

2. Principles for development of instructional materials

Popham, W. J., and Baker, Eva L. *Rules for the Development of Instructional Products*

3. Recommendations for evaluation of instructional materials

Joint Committee on Programed Instruction and Teaching Machines. *Recommendations for Reporting the Effectiveness of Programed Instructional Materials*

Tyler, Louise L., and Klein, M. Frances. "Recommendations for Curriculum and Instructional Materials"

4. Evaluation of curriculum projects
   School Health Education Study. *Health Education: A Conceptual Approach to Curriculum Design*

D. The relation of teaching and learning
   Dewey, John. *Experience and Education*
   Project on Instruction (Written by John I. Goodlad.). *Planning and Organizing for Teaching*
   Herrick, Virgil. *Strategies of Curriculum Development*
   Raths, Louis, and others. *Values and Teaching: Working with Values in the Classroom*
   Bloom, Benjamin S. "Learning for Mastery"
   Joyce, Bruce. *The Teacher and His Staff: Man, Media, and Machines*
   Schwab, Joseph J. *College Curriculum and Student Protest*

E. Organization of curriculum
   Tyler, Ralph W. *Basic Principles of Curriculum and Instruction*
   Miel, Alice. *Sequence in Learning: Fact or Fiction*

F. Evaluation in curriculum
   Tyler, Ralph W. "General Statement on Evaluation"
   Tyler, Ralph W. *Basic Principles of Curriculum and Instruction*

1. Evaluation of tests
   Buros, Oscar K. *The Sixth Mental Measurements Yearbook*
2. Standards for tests
   American Psychological Association. *Standards for Educational and Psychological Tests and Manuals*
3. Evaluation of curriculum
   American Educational Research Association. *Perspectives on Curriculum Evaluation*
   American Educational Research Association. *Evaluation Activities of Curriculum Projects*
   Department of Elementary School Principals and Center for the Study of Instruction. *National Assessment of Educational Progress*
4. Conceptions of evaluation
   Stake, Robert E. "The Countenance of Educational Evaluation"
   Pace, C. Robert. *Evaluation Perspectives: 1968*
5. Limitations of measurement
   Webb, Eugene J., and others. *Unobtrusive Measures: Nonreactive Research in the Social Sciences*

VI. The individual and the curriculum
  A. The purpose of schooling
    Goodlad, John I.; Stoephasius, Renata von; and Klein, M. Frances. *The Changing School Curriculum*
  B. Conceptions of man
    Freud, Sigmund. *Collected Works*
    Erikson, Erik. *Childhood and Society*
  C. An application of psychoanalytic concepts to curriculum development
    American Educational Research Association. *Instructional Objectives*
  D. Diagnosis of students
    Schwab, Joseph J. *College Curriculum and Student Protest*
VII. Curriculum and the state
    Goodlad, John I.; Stoephasius, Renata von; and Klein, M. Frances. *The Changing School Curriculum*
    Encyclopaedia Britannica. *The Great Ideas*
VIII. Curriculum scholars
    Barton, George E., Jr. "Educational Objectives—Improvement of Curricular Theory About Their Determination"
    Caswell, Hollis. "Sources of Confusion in Curriculum Theory"
    Huebner, Dwayne. "Curriculum as a Field of Study"

3. Annotations: Structure, Interpretation, and Criticism

This chapter includes the annotations of the references cited in the preceding "Outline of Topics and Selected References." As noted in Chapter 1, the annotations are a result of analyzing, interpreting, and criticizing a book according to the rationale set forth by Adler. The annotations are arranged in the order they appear in the outline.

Unless otherwise noted, the reference is considered to be "practical."

Tyler, Ralph W. *Basic Principles of Curriculum and Instruction.* Chicago: University of Chicago Press, 1950. 83 pp.

Analysis of Structure

This book outlines a rationale for viewing, analyzing, and interpreting the curriculum and instructional program of an educational institution. Four basic questions, referred to in Chapter 2, are formulated.

There are five parts to the book: I—the formulation of purposes for a school; II—how learning experiences can be selected; III—how learning experiences can be organized for effective instruction; IV—how the effectiveness of learning experiences can be evaluated; and V—how a school staff may work on curriculum building.

The author presents a procedure to aid in the understanding of problems involved in developing a curriculum and acquiring of some techniques for attacking these problems.

Interpretation of Contents

Basic terms: objectives, learning experiences, organization, evaluation, criteria, behavior, continuity, sequence, interaction content, validity, reliability

Five leading propositions:

Objectives are matters of choice, and they must therefore be considered value judgments of those responsible for the school.

No single source of information (learner, society, or subject matter) is adequate to provide a basis for wise and comprehensive decisions about the objectives of the school.

Knowledge about the psychology of learning enables us to distinguish feasible goals from those not feasible or which are almost impossible to attain at the particular age level of the child.

For a given objective to be attained, a student must have experiences that give him an opportunity to practice the kind of behavior implied by the objective.

The same learning experience will often bring about different outcomes for different learners.

Tyler argues that if an educational program is to be planned, a clear conception of goals is necessary. Ends are effectively attained when means to those ends are selected as part of a rational process—a process based on reason and data. Furthermore, evaluation is considered as an integral part of curriculum development. And finally, all elements—objectives, learning experiences, organization, and evaluation—must be studied if improvement of a program is to result.

Tyler has presented a procedure for analyzing and understanding the process of curriculum development.

Criticism

I concur with those who speak of Tyler's syllabus as the primer for curriculum planners. When first outlined in detail, it was the only conceptualized rationale in the literature. Now his four questions are so much a part of curriculum thinking that they are no longer footnoted, but the secondary sources are.

Tyler's rationale is powerful because it makes sense of so much in the curriculum field. John Goodlad has recently added to the rationale by introducing a system of levels at which curriculum decisions are made.

Macdonald and Huebner have criticized Tyler and the ends-means conception. However, the ends-means relationship is essen-

tial when thinking of education and curriculum as arts based upon science.

Tyler's 83-page syllabus is a must.

Goodlad, John I., with Richter, Maurice N., Jr. *The Development of a Conceptual System for Dealing with Problems of Curriculum and Instruction.* U.S.O.E. Contract No. S.A.E. 8024, Project No. 454. Los Angeles: University of California at Los Angeles and the Institute for the Development of Educational Activities, 1966. 69 pp.

Analysis of Structure

This is a presentation of a conceptual system for dealing with problems of curriculum and instruction.

There are five parts to the book: I—conceptual systems in curriculum; II—definitions; III—decisions and levels of decisions; IV—ends and means; V—a tentative conceptual system.

The author formulates a conceptual system to guide theory building, research, and planning in the field of curriculum.

Goodlad deals with problems of definitions, relationships among curricular phenomena, classification of phenomena, and the like.

Interpretation of Contents

Basic terms: rationality, aims, values, objectives, reason, data, learning opportunity, organizing center, levels of decision making, data sources, behavioral element, substantive element, structure

Five leading propositions:

A curriculum is a set of intended learnings.

To select learnings without concern for ends is to behave irrationally.

A completely value-free position is impossible.

It is more rational for boards of education to concern themselves with the more general aims and functions of their schools than with specific learning opportunities.

Significant changes in human behavior rarely result from a few random encounters with phenomena.

The authors have formulated a conceptual system on the basis of their knowledge and experience. Their intent was that the system be useful in organizing available research as well as in motivating and giving rise to needed additional research.

Criticism

This publication is probably the most thorough presentation of the "Goodlad conceptual system" available in the literature. Unfortunately, copies are difficult to obtain. The criticism leveled at Tyler's syllabus can be aimed at Goodlad's conceptual system: it needs expansion—it should be a book.

I agree with Goodlad's emphasis on rationality and comprehensiveness in viewing curriculum decision making. His conception of curriculum decision making at varying levels (societal and institutional) removed from the classroom setting makes it possible to understand the otherwise often incomprehensible curriculum decision making which occurs at the instructional level.

This volume is a must and should be read with Tyler's syllabus.

Macdonald, James B. "Myths About Instruction." *Educational Leadership* 22: 571-76, 609-17; May 1965.

Analysis of Structure

This article analyzes the inadequacies of certain "myths of instruction" and suggests two metaphors which might be more valid.

The article has four sections: I—introduction of notions of metaphors and myths; II—discussion of six myths: (1) learning theory, (2) human development, (3) structure of the disciplines, (4) modes of inquiry, (5) interaction analysis, (6) rational decision making; III—discussion of two metaphors; IV—conclusion: a plea for conceptual pluralism and prescriptive variety in instructional programs.

The author contends with the difficulty of prescribing instructional practice on the basis of possible invalid explanations of phenomena.

Interpretation of Contents

Basic terms: myths, instruction, prescriptions, metaphors, learning theory, human development, structure of the disciplines, modes of inquiry, interaction analysis, rational decision making, aesthetic, moral

Seven leading propostions:

We, in effect, prescribe instructional practices on the basis of possibility but with unknown probability of validity, and the motives or moving forces for prescription are probably not central to the nature of instruction itself.

What is at issue is the claim that reinforcement theory is a valid basis for prescription of instructional practices.

The leap from description to prescription is a leap of faith based upon factors not necessarily relevant to instruction.

Even the fact of individual differences is only descriptive of what we may expect to find—it does not offer a specific basis for prescribing instructional procedures.

It is difficult to see how meaningful behavior could result from a formal series of sequential rational decisions.

Objectives are only known, in any final sense, after the completion of an act of instruction.

Two metaphors, the aesthetic and the moral, may be more valid and have as much possibility for providing prescription for instruction as the myths discussed.

Macdonald argues that instructional practices are prescribed on the basis of possibility, but unknown probability, of validity, and that there are two metaphors, the moral and the aesthetic, which may be more valid than what he lables the myths of instruction noted above. Furthermore, he makes a plea for conceptual pluralism and prescriptive variety as alternative metaphors.

Criticism

Macdonald deals with a very important issue in this article—the relation between theory and practice. In some cases he deals with the validity of the theory (reinforcement theory) and in other cases with what might be involved in going from the theory to the prescription (i.e., from nutrition studies to instructional self-selection).

Unfortunately, I think that Macdonald confuses the reader rather than illuminating the issue. He makes these two statements which I think are puzzling and need clarification:

It is not that the theory is necessarily wrong but that the use of these theories is sometimes unintelligent. What we need are more and better theories, not less theorizing.

It seems to be that the problem is twofold: (a) a valid principle and (b) how an educator goes from theory to practice. It is here that Fenstermacher's article is so useful.

Furthermore, Macdonald gives no basis for his belief that the moral and aesthetic metaphors are more valid than what he has termed "myths." Nor does he proceed to any prescriptions based upon his metaphors. And finally, who is objecting to the plea for conceptual pluralism and prescriptive variety?

Huebner, Dwayne. "Curriculum as a Field of Study." *Precedents and Promise in the Curriculum Field.* (Edited by Helen F. Robeson.) New York: Teachers College Press, 1966. pp. 94-112.

Analysis of Structure

This article elaborates upon a conception of curriculum as a field of study. Curriculum is viewed as the design of an educative environment in which valued educational activity can occur.

The article is organized around four propositions, stated briefly as follows:

1. Current conceptions of curriculum are inadequate because they are tied to technique and ignore spirit.
2. This inadequacy stems from the use of values as goals and an overdependency on learning.
3. Inadequacy of curriculum can be partially corrected by conceiving curriculum as the design of an educative environment in which valued educational activity can occur.
4. Such designing is a political process by which curriculum workers seek to attain a just environment.

Huebner attempts to deal with the inadequacy of a conception of curriculum which is ends-means– and learning-theory–oriented.

Interpretation of Contents

Basic terms: temporality, learning, value, technique, transcendence, axiological, culture

Eight leading propositions:

It is in the classroom that men should discover how technique can serve man rather than man serve technique.

The unfortunate equating of education with learning has helped the ascension of theories of learning and has justified the means-ends value system which is characteristic of technique.

One of the major contributions of learning theory to education is the facilitation of the construction of the educational environment.

Man's existence is a temporal existence.

Man is embodied change. Not only can he produce change, but he himself is capable of continual change.

The central notion for the curriculum specialist must be that of educational activity. Next, he needs a conception of value.

Change is the reality in today's world and stability is the problem.

Three factors serve man's transcendence: language, social encounter, and a capacity for wonder and awe.

Huebner argues that current thinking about curriculum is inadequate because it is tied to the world of technique as a consequence of a means-ends approach. Educational activity is the center of curriculum, and the curriculum specialist must be a designer who seeks a just environment for all members of society. Huebner proposes serious reflection upon the spirit of man as one new means to achieve such a just environment.

Criticism

Huebner's is one of the strongest voices writing about the inadequacy of the ends-means conception of curriculum and the centrality of learning theory to that conception. Much of his writing reads well. Unfortunately, what can one do with his notions? I like many of his ideas but, as a practical curriculum person, wonder what I can do with his notion that man's capacity for wonder and awe is a potential vehicle for transcendence or temporal movement. "The moment of awe is the moment of humility, when one becomes

aware of what one is and is not."* What am I to do (think, feel, act) with this as a curriculum worker? Is it an aid to establishing a climate in a classroom where objectives can be jointly formulated by teacher and student?

It is possible for one individual to evolve a new theoretical formulation, but the skills and abilities of others are required for application of the new ideas.

Huebner, Dwayne. "Curricular Language and Classroom Meanings." *Language and Meaning.* (Edited by James B. Macdonald and Robert R. Leeper.) Washington, D.C.: Association for Supervision and Curriculum Development, a national affiliate of the National Education Association, 1966. pp. 8-26.

Analysis of Structure

This paper presents five value frameworks that are, or might be, used in thinking about curriculum. There is extensive discussion of two value systems that might be fruitful for reformulating curriculum language—ethical rationality and aesthetic rationality.

There are three parts to this paper: I—the nature and limitations of the language now used in curricular discourse; II—presentation and discussion of five value systems (technical, political, scientific, aesthetic, and ethical); III—elaboration of ethical and aesthetic rationality as curricular languages.

The author questions the present curriculum language and suggests other, possibly better kinds of language.

Interpretation of Contents

Basic terms: myths, language, value systems, technical, political, scientific, aesthetic, ethical

Seven leading propositions:

Today's curricular language is filled with dangerous, nonrecognized myths—dangerous not because they are myths, but because they remain nonrecognized and unchallenged.

---

*p. 105.

Two tyrannical myths are embedded deeply in curricular language. One is that of learning, the other that of purpose.

Technical valuing and economic rationality are valid and necessary modes of thought in curriculum.

There is nothing evil or immoral about political rationality and valuing. Indeed, they are necessary if personal influence and responsibility are to be maximized.

Educational activity will be richer and more meaningful if the five value systems [noted in the Analysis above] are brought to bear upon curriculum discourse.

Concepts which might possibly be used in an ethical rationality of educational activity are response-ability, conversation, influence, promise, and forgiveness.

Concepts for aesthetic rationality are the continual caging of chaos, psychical distance or noninstrumentality, beauty or harmony and form, truth as unveiled meaning, and criticism.

Huebner argues that curricular language seems filled with dangerous nonrecognized myths and that educators must free themselves from self-confining schemas. He then elaborates on two possible alternatives—ethical rationality and aesthetic rationality.

Criticism

This article is very useful in helping a reader stand off and view, possibly with some detachment, some of the ways in which curricular questions are conceptualized and what some implications might be for one's view of learners, teachers, and the like.

One wonders what point Huebner is making in light of this passage taken from the article:

> In conclusion, present curricular language is much too limited to come to grips with the problems, or rather the mysteries, of language and meaning of the classroom. The educator must free himself from his self-confining schemas, in order that he may listen anew to the world pounding against his intellectual barriers. The present methodologies which govern curricular thought must eventually give away.*

Is Huebner suggesting that aesthetic rationality and ethical rationality must give way?

---

*p. 26.

Schwab, Joseph J. "The Practical: A Language for Curriculum." Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, February 1969. 30 pp. (Also published by the NEA Center for the Study of Instruction.)

Analysis of Structure

This article elaborates on the thesis that there will be a renascence of the field of curriculum only if the bulk of curriculum energies are diverted from the theoretic to the practical, to the quasi-practical, and to the eclectic.

This article has five sections: I—the thesis; II—elaboration and examples of signs of flight from the field due to crises; III—exposition of what the theoretic bent has been and its "let-downness"; IV—what theory can and cannot do and what curriculum treats; V—presentation of the practical and its character.

The author analyzes what is occurring and suggests what is needed for the development of the field.

Interpretation of Contents

Basic terms: theoretic, practical, eclectic

Five leading propositions:

The field of curriculum is moribund, unable by its present methods and principles to continue its work, and desperately in search of new and more effective principles and methods.

The stuff of theory is abstract or idealized representations of real things, but curriculum in action treats real things, real acts, real teachers, real children—things richer and different from their theoretic representations.

There is every reason to suppose that not only is one theory of behavior a pale and partial representation of actual behavior but also that all theories extant—if it were possible to combine them—would fall short, perhaps far short, of comprehending the whole of human behavior.

Existing institutions and existing practices are to be preserved and altered piecemeal—not dismantled and replaced.

Actions are to be undertaken with respect to identified frictions and failures in the machine, inadequacies as evidenced in felt shortcomings of its products.

Schwab argues that curriculum in action treats real things, real acts, real teachers, and real children; consequently, abstract theory must be supplemented by arts which bring a theory to its application. Schwab offers some comments on the arts of the practical.

Criticism

This article is based upon an address which, when first heard, caused considerable irritation on the part of listeners. It is fortunate that it is now in print and more valuable discussion can be pursued.

Schwab is making the same point that Macdonald made in "Myths About Instruction," which is that no existent theories are adequate to tell us what to do with human beings or how to do it. Schwab explains the problem in detail and suggests a direction which is, in my judgment, very fruitful.

Schwab's suggestion about the arts of the practical may now be explored as a means to achieve more productive curriculum development.

Readings in the *Syntopicon* under the headings "Art," "Science," "Medicine," and "Law" are useful adjuncts to this article.

National Society for the Study of Education. Yearbooks. Chicago: National Society for the Study of Education. Yearbooks. Chicago: University of Chicago Press. (Two volumes published each year).

The National Society Yearbooks treat various subjects in the field of education. Some examples are evaluation, international education, reading, programed instruction, and social deviancy among youth. Some are directly concerned with curriculum, such as *American Education in the Postwar Period: Curriculum Reconstruction* (Fourty-Fourth Yearbook, Part I); *Curriculum-Making: Past and Present* (Twenty-Sixth Yearbook, Part I); *The Foundations of Curriculum Making* (Twenty-Sixth Yearbook, Part II). Other yearbooks are indirectly concerned with curriculum and may have chapters which pertain to curriculum or certain aspects of curriculum. Examples of these are *The Changing American School* (Sixty-Fifth Yearbook, Part II); *The Dynamics of Instructional Groups* (Fifty-Ninth Yearbook, Part II); *Educational Evaluation: New Roles, New Means* (Sixty-Eighth Yearbook, Part II). Members of the Society who

are particularly competent to deal with the topic of the yearbook write the various chapters. The nature of the yearbooks can be seen by presenting a sample chapter from one of them. Benjamin Bloom's "Some Theoretical Issues Relating to Educational Evaluation" from the 1968 yearbook, Part II, will be discussed. This chapter has been selected because it deals with the commonplaces of curriculum and evaluation.

Analysis of Structure

This chapter discusses certain theoretical issues relating to educational evaluation.

The chapter has four sections: I—nature and use of specifications; II—evaluation of nonspecified objectives; III—effects of evaluation; IV—formative versus summative evaluation.

Bloom clarifies some of the issues related to deriving, stating, and using specifications in evaluation. He also discusses the effects and uses of evaluation.

Interpretation of Contents

Basic terms: specifications, stable characteristics, formative, summative

Six basic propositions:

If education and educational materials are to be systematic in their effects and open to inquiry, the specifications for their selection and use must be put forth in some explicit form.

That all the purposes and specifications for education *cannot* be made explicit does not mean that no purposes or specifications *should* be made explicit.

The degree of specificity sought is determined in part by the extent to which the curriculum makers or teachers wish to anticipate and program the work and activities of students and teachers.

One need not limit evaluation to only the desired and specified outcomes of instruction if there is some reason to believe that certain additional outcomes are likely to take place.

Examinations which are regarded as measuring important and relatively stable characteristics of the individual have the greatest effect.

Frequent use of formative evaluation during a course may be very effective in pacing student learning.

Bloom argues that purposes and specifications which can be made explicit should be made so in order that their achievement can be open to analysis and inquiry. He further suggests some of the consequences of the use of evaluation on students, on practices, and on institutions.

Criticism

The National Society for the Study of Education yearbooks comprise a significant series in the field of education. The Board of Directors is always composed of a group of the most outstanding scholars in the field. The process of producing the yearbooks is also conducive to excellence. Writers for the last several volumes include such outstanding scholars as Dale, Goodlad, Tyler, Glaser, Bloom, Thelen, Husen, and Lindquist.

For illustrative purposes, just one chapter, "Some Theoretical Issues Relating to Educational Evaluation" by Benjamin Bloom, was selected for review. This clearly written article cuts through some of the confusions which exist in the specifications of objectives and the uses of evaluation. Many discussions about educational objectives have generated heat, considerable humor, but little light. This chapter is an exception and should be read along with Macdonald and Huebner so that the ends-means issue in curriculum and evaluation can be clarified.

Association for Supervision and Curriculum Development. *Yearbooks*. Washington, D. C.: the Association, a national affiliate of the National Education Association. (Published yearly)

The Association produces yearbooks germane to supervision and curriculum development. Two recent ones directly concerned with curriculum are *Life Skills in School and Society* and *Evaluation as Feedback and Guide*. Others are indirectly concerned with curriculum, such as *Learning and Mental Health in the School*. Bruno Bettelheim's chapter, "Autonomy and Inner Freedom: Skills of Emotional Management," from the 1969 yearbook will be discussed to indicate the nature of the yearbooks.

Analysis of Structure

This chapter discusses autonomy and the task of schooling in its development.

The chapter can be divided into three sections: I—introduction; II—psychological health in our changing social order; III—the tasks of schooling.

Bettelheim suggests the skills necessary for learners to function successfully and speculates about appropriate experiences the schools can provide.

Interpretation of Contents

Basic terms: autonomy, violence, integrated personality, conflict

Nine propositions:

Inner freedom, personal autonomy, and the process of decision making are crucial ingredients in the development of an integrated personality.

The teacher's capability for human interaction is as important a qualification as academic knowledge and teaching skill.

We would do well in our schools to help children learn about [illegible] young recognize its inefficacy in resolving problems.

There is much to be said for developing the skill of learning from reality.

Healthy interpersonal relationships cannot be learned from books.

Skill in achieving successful interpersonal relationships is infinitely more important in life than command over a collection of facts.

To resolve a conflict, the individual must have developed a well-integrated personality.

The school does the child a lasting disservice when it resolves his conflicts for him.

Schools must be prototypes of our culture, posing real obstacles, real threats, and real conflicts.

Bettelheim argues that the school ought to be a place where a child learns about life as it is, and therefore real obstacles, real threats, and real conflicts must be present. Aided by a sensitive teacher, the child can survive his failures and develop coping skills.

Criticism

The ASCD yearbooks make a valuable contribution to the field of education. The committee members are important leaders in the fields of supervision or curriculum. Contributors to the yearbook are significant workers in the related professional fields or are educators. Writers have included Eli Bower, Donald Syngg, Fred Wilhelms, John Seeley, Louis Rubin, and Bruno Bettelheim.

These yearbooks, in general, are less rigorous than those of the National Society for the Study of Education. Furthermore, they are frequently on topics which, while germane to education, are somewhat distant. Consequently, it is possible that ideas and techniques are not as well-formulated or well-developed.

In the chapter reviewed, Bettelheim presents some very interesting ideas which should be explored. Two are that schools must be prototypes of our culture—posing real obstacles, real threats, and real conflicts—and that children should learn about violence.

Schools would be far different if they were based upon a curriculum appropriate to these two ideas and if they were staffed by sensitive (in Bettelheim's definition) teachers and other personnel.

National Education Association, Center for the Study of Instruction. Major Reports of the Project on Instruction. *Schools for the Sixties* (146 pp.); *Education in a Changing Society* (166 pp.); *Planning and Organizing for Teaching* (190 pp.); *Deciding What To Teach* (264 pp.). Washington, D.C.: the Association, 1963.

These four publications deal with issues of schooling pertinent to the 1960's. They form a unit.

Schools for the Sixties summarizes what is included in the three supporting volumes: *Deciding What To Teach, Planning and Organizing for Teaching,* and *Education in a Changing Society.* This volume presents 12 questions and formulates 33 recommendations appropriate to the questions. For example, the question, "How can schools make wise selections of content from the ever-growing body of available knowledge?" is handled by one recommendation which reads:

> The objectives of the school, with a clear statement of priorities, should give direction to all curriculum planning. This applies to adding content, eliminating content, or changing the emphasis on various topics and fields of study.*

Deciding What To Teach deals with the questions and related recommendations pertaining to the curriculum. For example, the question, "What is the school's role in teaching about controversial issues and about communism and other ideologies?" is handled by a recommendation which reads:

> Rational discussion of controversial issues should be an important part of the school program. The teacher should help students identify relevant information, learn the techniques of critical analysis, made independent judgments, and be prepared to present and support them. The teacher should also help students become sensitive to the continuing need for objective reexamination of issues in the light of new information and changing conditions in society.**

Planning and Organizing for Teaching is analyzed and evaluated elsewhere in this volume.

Education in a Changing Society is devoted to a discussion of various important facets of our society and implications for the schools. Some topics included are science and technology, economic growth, bureaucratic organizations, urbanization, population growth, and international interdependence and conflict.

Criticism

Because the "turn-around" time available for schools is becoming shorter and shorter, many volumes which are timely when published rapidly lose their significance. This is not yet true of *Deciding What To Teach* or *Planning and Organizing for Teaching*. Both volumes are replete with basic ideas about schooling. The report of the Project on Instruction which outlines the 12 decision areas and the 33 recommendations is basic to schooling and still has not been implemented.

It is difficult to tell to what extent schooling in 1980 will be tied to a place or whether it will be a concept. However, recommendations such as the following will still be germane:

---

*Schools for the Sixties, p. 129

**Deciding What To Teach, p. 223.

The fact that very young children can learn relatively difficult aspects of science, mathematics, and other subjects is at best an incomplete answer to the question of whether they *should* learn them at this particular stage of their development. Decisions about when to teach what should be based on both the learner's ability to understand and the relative importance of alternative ways of using the learner's time at any given point in his school experience.*

With slight modifications, other recommendations will also still be valid for many years.

Encyclopaedia Britannica. *The Great Ideas: A Syntopicon of Great Books of the Western World.* (Published by William Benton.) Chicago: the Encyclopaedia, 1952. Vol. I, 1082 pp.; Vol. II, 1346 pp.

This most impressive publication effort is an invaluable source of ideas basic to education and curriculum. Some of the chapters which could profitably be referred to will be briefly indicated, and a few comments will be made as to their significance for curriculum. Reading the *Syntopicon* is similar to using Roget's *Thesaurus* in that one another and then to yet another.

"Definition," Volume I. Many of the writings included in this bibliography are concerned with definition of terms. This is particularly true of those included under the headings "Inquiry into Curriculum" and "Definitions." This useful chapter from the *Syntopicon* elaborates on such issues as the object of definition, the purpose of definition, the limits of definition, and various methods of definition.

"Science," Volume II. Many of the articles included here directly designate education as a science or indicate that it is not but should be. Others do not even utilize the word but appear to make that assumption in their content. The *Syntopicon's* discussion of science involves the distinction and relation between experimental and philosophical science or between empirical and rational science; the relation of science to other kinds of knowledge; and the relation of science to action and production.

Ibid., p. 226.

"Art," Volume I. Because of the beginning discussion of "art" in curriculum, a reading of this chapter may speed up the dialogue. Such statements as "medicine is an art based upon science" or "education is an art or an art based upon a science" make the reading of this chapter useful. Some of the issues are the comparison and distinction of art and science, and art as the application of science.

"*Education.*" No comment need be made about the usefulness of looking at this chapter. Some topics are the ideal of the educated man, the nature of learning and its several modes, the order of learning, and the organization of the curriculum.

"*Medicine,*" Volume II. As medicine is outlined here, it might easily be transformed by some into an outline for education or more specifically, curriculum. Some of the issues discussed are the profession of medicine, its aims and obligations; the art of medicine; and the theory of disease.

"*Man.*" Man's being the focus of education makes this chapter particularly significant. Ideas treated include definitions of man and analysis of human nature into its faculties, powers, or functions; the id, ego, and super ego in the structure of the psyche; man as an object of laughter and ridicule, comedy and satire; and the grandeur and misery of man.

Beauchamp, George A. *Curriculum Theory.* Wilmette, Ill.: Kagg Press, 1968. 179 pp.

Analysis of Structure

This book is concerned with why and how to develop curriculum theory.

It has five parts: I—curriculum theory building as an educational problem; II—the nature of theory building in behavioral sciences; III—description of theory building in education; IV—the history and characteristics of curriculum theory; V—the basics of theory building in curriculum: curriculum design, engineering, field of study.

The author deals with two problems: (1) What is the nature of theory and theory building? and (2) What is necessary for curriculum theory building?

Interpretation of Contents

Basic terms: theory, definitions, classification, model making, design, values

Three leading propositions:

If education is to be treated as a science, it must be an applied behavioral science.

Description, explanation, and prediction are as applicable and necessary to curriculum theory as to any other field of endeavor.

Basic theory-building activities are definitions of technical terms, classification of knowledge, inference and prediction from research data, subtheory building, and model making.

The author's essential argument is that curriculum theory will be best developed if it is viewed as an applied behavioral science and that expansion of curriculum theory is impossible without major expansion of experimental research.

Beauchamp presents a conception of how to improve curriculum theory.

Criticism

This is the only volume available on curriculum theory. It is based upon the scientific tradition as conceptualized by behavioral scientists.

Beauchamp's conception of curriculum theory can be criticized on the basis of its incompleteness. The author's thinking about curriculum theory appears limited to a behavioral, scientific approach. However, his introduction of a chapter on values in curriculum theory must, of necessity, eventually involve considerations of philosophy. Consequently, curriculum theory conceptualizing will have to utilize more areas of knowledge than just the behavioral sciences.

Just as education utilizes the knowledge and methodology of philosophy and science, so does curriculum involve philosophy and science—both their substance and their methodology.

Johnson, Mauritz, Jr. "Definitions and Models in Curriculum Theory." *Educational Theory* 17: 127-40; April 1967.

Analysis of Structure

This article is a discussion of current efforts to theorize about curriculum. A definition of curriculum in which the domain of curriculum is outlined is formulated.

This article has four sections: I—the distinction between theory and platforms; II—a definition of curriculum and notions about the source of curriculum and selection; III—relationships between curriculum and instruction and curriculum and evaluation; IV—a summary and a schema for curriculum.

The author clarifies a definition of curriculum and deals with matters relating to it.

Interpretation of Contents

Basic terms: platforms, theories, curriculum structure, sources of curriculum, instruction, evaluation, curriculum

Seven leading propositions:

Platforms propose policies, whereas theories provide explanations.

Vocabulary is still one of the chief problems in curriculum theory.

Curriculum is a structured series of intended learning outcomes.

A curriculum is not a random series of items, but a structured one.

Although curriculum is not a system, it may be viewed as the output of a curriculum development system and as an input into an instructional system.

Surely, curriculum does not consist of people.

Surely, curriculum must play some role in guiding instruction.

Criticism

The aim of this article is to move discussion of curriculum theory from a sole concern with improvement to a greater concern for understanding the phenomena. There is extended discussion of curriculum and instruction. Johnson argues that previous definitions of curriculum are not acceptable on the basis of statements such as

"surely, curriculum does not consist of people" and "surely, curriculum must play some role in guiding instruction" and "clearly, such interaction characterizes instruction, not curriculum." Words such as *clearly* and *surely* are rhetorical and oratorical and while there is nothing wrong with this sort of usage, all ideas eventually are subject to intellectual scrutiny. In view of the shortcomings of other definitions of curriculum, Johnson then stipulates his own: that it is a structured series of intended learning outcomes. Many scholars proceed on the basis of faith in ideas that suggest that definition of terms is important for clarifying discourse, that definitions can aid precision of thought, and that definitions are ultimately aids to resolving issues. However, it is well to remember what Goodlad pointed out in 1960:

> Distinctions among . . . definitions of curriculum appear not to affect significantly the kinds of questions and problems dealt with in common by those who work in the field of curriculum. As Kearney and Cook* point out, even those who define curriculum as "something that happens to learners" devote their attention to problems involved in developing a curriculum plan or design.**

This same comment can be made about Johnson. He also finds it necessary to discuss instruction and evaluation.

This article is basic and should be read along with the Beauchamp volume.

American Educational Research Association. "Curriculum Planning and Development." *Review of Educational Research.* 1957, 1960, 1963, 1966, 1969. Washington, D. C.: the Association.

These reviews summarize the literature on curriculum planning and development in three-year cycles. The topics included in the reviews vary from issue to issue. A major criticism of the reviews on all topics, not only those in curriculum, has been that they are summaries of studies and that few, if any, critical reactions are presented. Occasionally, there is a helpful review of reviews.

---

*Kearney, Nolan C., and Cook, Walter W. "Curriculum." *Encyclopedia of Educational Research.* Third edition. (Edited by Chester W. Harris.) New York: Macmillan Co., 1960. pp. 358-65.

**Goodlad, John I. "Curriculum: The State of the Field." *Review of Educational Research* 30: 185; June 1960.

The reviews on curriculum planning and development have chapters written by Bellack, Huebner, Goodlad, Macdonald, and Herrick—individuals who have all made substantial contributions to the dialogue about curriculum. In addition to the reviews on curriculum planning and development, other titles in this series are valuable. These include, among others, "Instructional Materials," "Natural Sciences and Mathematics," and "Language Arts and Fine Arts."

Faix, Thomas L. "Structural-Functional Analysis as a Conceptual System for Curriculum Theory and Research: A Theoretical Study." Paper presented at AERA annual meeting, Chicago, February 1966. 27 pp.

Analysis of Structure

This paper is an elaboration of a structural-functional analysis of curriculum phenomena with the intent that curriculum concepts be derived and refined.

There are five parts to this document: I—the nature of curriculum phenomena; II—the concept of curriculum system; III—the units and elements of a curriculum system; IV—the concept of curriculum structure; V—the concept of curriculum function: the concept of curriculum process.

The author tries to bring unity and coherence to research, to facilitate the development of theory, and to increase communication.

Interpretation of Contents

Basic terms: value system, knowledge system, teaching-learning process, curriculum system, element, unit, unit of analysis, pattern of interaction manifest, talent, internal-external structure

Five leading propositions:

A curriculum system is, in effect, an outcome or product of its component subsystem.

Knowledge systems would be the referent disciplines in the humanities and the social and natural sciences.

Curriculum phenomena need to be studied as a complete system in order to be understood as a whole and to enable study of the problem of the overall design of curriculum.

Use of the curriculum system would seem to enable better description of curriculum phenomena in a given system and to provide the basis for comparison with other similar systems.

Curriculum system activity does not occur apart from a structure nor does a structure exist except as a product of such activity.

Criticism

This comprehensive conception of a conceptual system for development of curriculum theory involves taking a scientific stance. Consequently, it can only be adequate to the extent that a scientific stance is valid for curriculum.

This paper is apparently an abstract (24 pages) of a dissertation written on the topic. For full understanding, it would be necessary to read the dissertation.

This paper should be read with Goodlad's *Conceptual System*, Ebel's "Some Limitations of Basic Research in Education," and Schwab's "The Practical: A Language for Curriculum."

Goodlad, John I. "Thought, Invention, and Research in the Advancement of Education." *Educational Forum* 33: 7-18; November 1968.

Analysis of Structure

This article exposits the relationship between thought, invention, and research in the advancement of education. The central thesis is that innovation in educational practice offers unique but unexploited opportunities for the advancement of educational science.

There are five parts to this article: I—introduction and presentation of the thesis; II—two modes of thought: the theoretical-deductive and the empirical-inductive; III—elaboration of how invention can be used for developing educational science; IV—a discussion of an invention, nongrading, and how both types of inquiry are related; V—conclusions as to what must be done if educational science is to come of age.

The author deals with the relationships between thought, invention, and research so that education as a field of study can advance.

Interpretation of Contents

Basic terms: theoretical-deductive, empirical-inductive, thought, invention, short-term syntax, long-term syntax, research, team teaching

Six leading propositions:

Our daily thoughts and actions, progress in social affairs, and advance in any field of inquiry involve a mixing and blending of deductive and inductive reasoning.

Always to insist on research findings as a prerequisite to action is to inhibit invention and to endanger both human progress and dispassionate scientific inquiry.

The rational advance of educational thought and practice is seriously impeded by inappropriate expectations for, and methodological deficiencies in, the study of educational phenomena.

Educational practices provide both the problems for educational inquiry and the "field" for testing and verifying conclusions.

> We are not likely to have invention in educational practice, let alone advances in educational science, if we demand research on the effects of an invention as a prerequisite to its creation.
>
> Advancing long-term educational syntax calls for a kind of intellectual movement from mental to simulated to operational models and back again.

Goodlad argues that educational practice provides the problems and the setting for investigations. Furthermore, thought is of two kinds: theoretical-deductive and empirical-inductive. Invention is a consequence of the blending of the two modes. He concludes that education will advance when the conceptually oriented activist and the forward-looking practitioner collaborate.

Criticism

This paper was first heard when it was given as the presidential address at the 1968 AERA annual meeting. At that time it was considered controversial, and there seemed to be more cons than pros in the audience. Like Schwab's "The Practical: A Language for Curriculum," this paper, too, required reading and thought to be comprehended.

Ebel presents the idea that if educational science is to be formulated, it will be if the substance, process, and product are studied as natural phenomena. Interestingly, he holds that formal education is not a natural phenomenon of the kind that lends itself to scientific investigation.

Criticism of this article, which concerns practical principles, must be based on two propositions: (1) whether it works and (2) whether it leads to the right end—an end rightly desired. My own conception of education as an art based upon science leads me to conclude that because of the premise that advancement in education comes only as a result of scientific inquiry, it leads to a wrong end. I also think the article does not move far enough.

This article by Goodlad is most significant, and many of the ideas it contains will be widely discussed and eventually reaffirmed.

Ebel, Robert. "Some Limitations of Basic Research in Education." *Phi Delta Kappan* 49: 81-84; October 1967.

Analysis of Structure

This article is a defense of the thesis that "basic research in education can promise very little improvement in the process of education, now or in the forseeable future." In place of basic research, Ebel suggests the kind of research that would be useful.

There are three sections to this article: I—definitions (basic and applied research); II—reasons why basic research can provide very little improvement of education; III—conclusions with regard to the kind of research needed.

The problem the author is trying to solve has to do with the kind of research that is needed so that improvement in the process of education can occur.

Interpretation of Contents

Basic terms: basic research, applied research, science, nomothetic science, decisions

Six leading propositions:

The record of basic research is very poor because the process of education is not a natural phenomenon but a human invention.

An understanding of the psychobiology of learning is unlikely to contribute much to the improvement of formal education.

Two educational questions are considered basic: What shall we try to teach children? How shall we go about getting them to learn it?

Most of the knowledge with which we guide our lives and solve our problems has come not from controlled experiments, but from practical experience.

To make the decisions that will solve our problems we need, in addition to knowledge, free exchanges of ideas, open discussions of values, and a sympathetic, cooperative search for consensus.

We must push, and rather more strongly, for the kind of survey research that provides data crucial to the decisions we must make.

Ebel argues that it is applied research which provides us with data which can be used to help solve practical problems of the school. Education is not a natural phenomenon of the kind that lends itself to reward from scientific investigation, and therefore, other kinds of appropriate studies should be undertaken.

Criticism

This article advocates applied research. Certainly, this is to be encouraged if education is viewed as an art based upon science. However, Ebel is wrong to rule out the contribution basic research can make now and in the foreseeable future. (What is meant by "foreseeable future" is not clear.) Whatever sciences are basic to education (for example, psychology and biology) should be investigated. Ebel's statement that the psychobiology of learning is unlikely to contribute much to the improvement of formal education is possibly true, but true because of inadequate design as well as because the kind of scholarly work suggested and operationalized by Fenstermacher in "Need-Achievement Theory and Educational Practice: A Transformation" has not been done.

This article should be read along with Goodlad, Fenstermacher, and Schwab.

Association for Supervision and Curriculum Development, Commission on Instructional Theory. *Criteria for Theories of Instruction.* (Edited by Ira J. Gordon.) Washington, D. C.: the Association, a national affiliate of the National Education Association, 1968. 44 pp.

Analysis of Structure

This booklet takes a position on a conception of a theory of instruction and then outlines criteria for assessing the properties of theories of instruction.

There are four parts to this booklet: I—introduction; II—a concept of a theory of instruction; III—criteria for assessing properties of theories of instruction; IV—functions of instructional theory.

The authors' problem became that of looking at the process of theory building for instruction and of then offering some criteria for assessing proposed statements of instructional theory.

Interpretation of Contents

Basic terms: theory, instruction, criteria, values, data, primitive terms, key terms, empirical, protocol statements

Six leading propositions:

A statement of an instructional theory should include a set of postulates and definitions of the terms involved in the postulates.

A theory is a set of interrelated generalizations derived from data which permit some degree of prediction or control over the phenomena to which they pertain.

An instructional theory should be congruent with its data.

An instructional theory must be capable of generating hypotheses.

Key terms must be operationally defined and must belong to a system of ideas.

An instructional theory must be stated in such a way that it is possible to collect data to disprove it.

The Commission argues that a theory cannot be built by a commission, therefore it opted for formulating criteria instead. It also argued that while the physical science model of theory building does not quite fit education, it does offer needed precision in measurement and definition.

Criticism

After having decided that the term *theory* was going to be used as it is in the "natural sciences," many things followed. Using the physical sciences as a model had determining consequences for the formulation of criteria for theories of instruction. It would be interesting to know why the physics model was chosen, in view of the statement that it does not quite fit education. The statement made that it would aid in moving toward precision in theorizing about instruction is not sufficiently convincing. Furthermore, the version of theory that is promulgated here smacks of a traditional textbook version of the development of theory—and a very simplistic conception of theory at that.

A reading of the Goodlad article on "Thought, Invention, and Research in the Advancement of Education" suggests the complexity of thought needed in advancing educational knowledge, and this includes instruction. Here Conant's point is made that "the empirical-inductive is by itself insufficient to generate advances in scientific theory." Also, a reading of "Science" in the *Syntopicon* might be instructive with regard to the issues of induction and deduction, the role of experience, the use of hypotheses, and the like.

In discussions of the structure of knowledge, attempts are being made to have students at the elementary and secondary levels deal with the sciences in light of their complexities. It will be unfortunate if we study or suggest we view our own field more simplistically.

Skinner, B. F. "The Science of Learning and the Art of Teaching." *Harvard Educational Review* 24: 86-97; Spring 1954.

Analysis of Structure

This article discusses some recent advances in psychology of learning, explores the implications for classroom teaching, and finally deals with some objections to the theory which might evolve.

There are four parts to this article: I—recent advances in psychology of learning; II—analysis and evaluation of the instructional situation in the classroom; III—revision of classroom practices on

the basis of what is known about the psychology of learning; IV – consideration and refutation of arguments against the use of instrumental aids in the classroom.

The problem the author is dealing with is how to utilize knowledge about the psychology of learning in classroom teaching.

Interpretation of Contents

Basic terms: behavior, reinforcement(s), shaping behavior, maintaining behavior, aversive events, contingencies of reinforcement

Eight leading propositions:

It has long been argued that an organism learns mainly by producing changes in its environment, but only recently have these changes been carefully manipulated.

A second important advance in technique permits us to maintain given strengths of behavior for long periods of time.

The species of the organism has made surprisingly little difference.

For the immediate purposes of education the child acts to avoid punishment.

By simply presenting food to a hungry pigeon at the right time, it is possible to elicit three or four well-defined responses.

Reinforcements continue to be important long after an organism has learned how to do something – long after it has acquired the behavior.

An organism is affected by subtle details of contingencies which are beyond the capacity of the human organism to arrange. Mechanical and electrical devices must be used.

Reinforcement for the right answer must be immediate.

Skinner argues that knowledge about "contingencies of reinforcement" is such that control of the learning process can be improved. To do this requires the help of mechanical devices. Objections to using instrumentation are discussed.

Criticism

This article, which appeared in 1954, and others in the same tradition should be read by all educators, particularly by curriculum workers. Skinner has had much impact on curriculum through his work on programed instruction, teaching machines, and instruction.

Obviously, the goal of improving classroom instruction is important, and Skinner's work has been widely utilized. To what extent it

has been adequately used is another question. His work has been done with a variety of subjects (pigeons, rats, dogs, monkeys, human children, human psychotic subjects), and he concludes that the properties of the learning process are amazingly similar. However, even though the subjects have included humans, the transformation of generalizations from the psychology of learning (usually done on insignificant tasks) to the classroom situation is tremendously complex. He does not deal with this aspect of the problem. Very simple leaps are made from reinforcement theory to the machine which reinforces a learner immediately for the right answer. Also, his system is a small system, and the classroom teaching situation differs in size and complexity.

Notwithstanding, Skinner's work is basic to curriculum and needs to be continued. Furthermore, its applications to curriculum must continue with the hope that the practices which result will be investigated by other scholars. The article by Fenstermacher, if read in conjunction with this one, would help to clarify some of the considerations necessary in moving from theory to practice in light of work by psychological researchers.

Carroll, John B. "A Model of School Learning." *Teachers College Record* 64: 723-33; May 1963.

Analysis of Structure

This article elaborates on a conceptual model for school learning which posits five variables: aptitude, ability to understand instruction, quality of instruction, time allowed for learning, and perseverance.

There are four parts: I—an introduction indicating the concern of the educational psychologist with learning and the formulation of a model; II—overview and discussion of a model; III—discussion of over- and underachievement in relation to the model; IV—suggestions for future research.

Carroll's problem is the formulation of a conceptual model which aids in the solution of practical problems and which uses a small number of simplifying concepts.

Interpretation of Contents

Basic terms: learning task, aptitude, spending time, needs to spend, factors determining how much time spent, ability to understand instruction, perseverance

Four leading propositions:

The model is intended to apply equally well to all tasks, no matter how small or large.

The work of the school can be broken down into a series of learning tasks.

The learner will succeed in learning a given task to the extent that he spends the amount of time that he needs to learn the task.

A tentative formula:

$$\text{Degree of learning} = F\,\frac{\text{time actually spent}}{\text{time needed}}$$

Carroll does not elaborate on the grounds for his formulations of this model. His argument is an explanation of the model and its usefulness in research.

Criticism

Carroll's objective was to formulate a model for school learning which would account for why pupils succeed or fail in school learning. This is a most important goal, and his model will undoubtedly be valuable. Already, Bloom has formulated a strategy for learning (annotated in this volume) based upon this model.

This is an important model for curriculum because all the variables (aptitude, ability to understand instruction, quality of instruction, time allowed for learning, and perseverance) can be considered dependent upon how the curriculum is formulated.

What is interesting theoretically is the way the term *aptitude* was defined and the usefulness of defining aptitude differently in formulating a model. Also, the stance underlying the model seems to be that of the perfect ability of mankind—who could object to that?

Bloom, Benjamin S. "Learning for Mastery." *Evaluation Comment* (Newsletter). Los Angeles: U.C.L.A. Center for the Study of Evaluation of Instructional Programs, May 1968. Vol. I, p. 1.

Analysis of Structure

This article presents the theoretical concepts, research findings, and techniques required for the development of one approach to learning for mastery.

The article has four sections: I—presentation of issue; II—background of problem; III—variables involved in mastery learning are posited as aptitude, quality of instruction, ability to understand instruction, perseverance, time allowed for learning; IV—a strategy for mastery learning including preconditions, operating procedures, outcomes.

Interpretation of Contents

Basic terms: master, aptitude, perseverance, preconditions, operating procedures, outcomes

Five leading propositions:

Perhaps more than 90 percent of all students can master what we have to teach them. It is the task of instruction to find the means which will enable them to master the subject under consideration.

Aptitude is the amount of time required by the learner to attain mastery of a learning task.

The grade of "A" as an index of mastery of a subject can, under appropriate conditions, be achieved by up to 95 percent of the students of a class.

The specification of the objectives and content of instruction is one necessary precondition for informing both teachers and students about the expectations.

Operating procedures are intended to provide detailed feedback to teachers and students and to provide supplementary instructional resources as needed.

Bloom argues that a strategy developed for mastery learning has positive cognitive and affective outcomes. In this strategy preconditions and operating procedures have been formulated.

Criticism

This article, along with all other practical articles and books, must be evaluated ultimately on the basis of its end, which is to facilitate mastery learning and consequently, encourage continual learning. On that basis, judgment of this article is positive. Like the Carroll article upon which it bases some of its arguments, it is concerned about a fundamental aspect of schooling, namely, how to facilitate learning. This is a desirable end. A second basis for evaluation of a practical article is whether it works. There is scattered empirical evidence which validates this proposal.

This article will have an important impact on the field because it is concerned with facilitating learning and it outlines a strategy of preconditions and operating procedures.

Caswell, Hollis. "Sources of Confusion in Curriculum Theory." *Toward Improved Curriculum Theory*. (Compiled and edited by Virgil Herrick and Ralph Tyler.) Chicago: University of Chicago Press, 1950. pp. 110-17.

Analysis of Structure

This article indicates some of the sources of confusion in curriculum theory and suggests what can be done when working on curriculum development problems.

This article has two parts: one dealing with confusions in curriculum theory and one with suggestions for curriculum workers.

Interpretation of Contents

The terms and their meanings are taken for granted. There are no specific definitions given.

Five leading propositions:

Theory which does not reach the action level fails in the central function it should serve.

The tasks of the curriculum worker are to draw from certain fields (philosophy, sociology, and psychology) a consistent body of basic principles, to interpret these principles as they apply to

education, and to extend their application so that a clear guide to practice is provided.

When a curriculum worker becomes overly impressed with the importance of a particular principle or factor, others are minimized, extreme positions are taken, and confusion results.

The tendency to interpret a particular principle or concept so narrowly as to support a preconceived point of view often leads to conclusions not justified by rigorous analysis.

If satisfactory results are to be achieved, theory and practice must interact constantly, each influencing the other.

Caswell argues that theory and practice must influence each other. He points out that some sources of confusion in curriculum theory are (a) failure to recognize the foundation of a theory, (b) too much reliance on a particular principle, (c) narrow interpretation of principle, and (d) application of inappropriate theory.

Criticism

Caswell adequately indicates some of the sources of confusion in curriculum theory. His position (theory which does not reach the action level fails in the central function which it should serve) is congenial with the ideas expressed by other scholars. Although his general suggestions are excellent, he is not very specific. Fenstermacher should be read for more direct suggestions.

Caswell's discussion of the confusion which arises when principles of general education are applied to professional education and *vice versa* is particularly helpful.

Articles by Ebel, Schwab ("The Practical: A Language for Curriculum"), and Goodlad ("Thought, Invention, and Research in the Advancement of Education") should be read in conjunction with this article.

Fenstermacher, Gary. "Need-Achievement Theory and Educational Practice: A Transformation." *Proceedings of the Twenty-Third Annual Meeting of the Philosophy of Education Society*. Edwardsville, Ill.: Philosophy of Education Society, 1967. pp. 76-83. (Studies in Philosophy and Education, 1967.)

Analysis of Structure

This article exposits the reasoning underlying the development of a theory in terms of its implications for the classroom. It describes the establishing of a link between theory and practice.

There are three parts: I—the five steps utilized in the transformation of need-achievement theory; II—notions of practice; and III—the "nut to crack," which is the matter of rules, the behavior bound by them, and the place of judgment.

Fenstermacher deals with how to move back and forth between theory and practice.

Interpretation of Contents

Basic terms: theory, practice, transformation, assumption, judgment, hypothesis, instantiate, rule

Two leading propositions:

Practice is a range or class of behaviors or activities that is bound by a rule.

A teacher having students who are high in motive to achieve success may elicit from these students the strongest tendency to approach success by manipulating them so that they perceive the tasks as intermediately difficult.

Fenstermacher began with a theory (T) and combined it with an assumption (As) so that a hypothesis (H) could be formulated. The hypothesis (H) was then contexted (E) and combined with a special assumption (SA) in order to specify an agent (Ag).

He outlines what is involved in the transformation of a principle of need-achievement theory to practice.

Criticism

This very important article deals in considerable detail and exceptionally well with a very important matter in education—relationship between theory and practice. It is the only article I know

of which elaborates on the intellectual process involved in going from principles to rules. Scholarly work of this nature may help bridge some of the gap between theory (science) and practice (art). Possibly some of the difficulty is not in the theory, but in how the practice has been formulated.

This article should be read in conjunction with Ebel, Goodlad, and Schwab.

Black, Max. *Models and Metaphors.* Ithaca, N.Y.: Cornell University Press, 1962. Chapter 4, "The Analysis of Rules," pp. 95-139.

Analysis of Structure

This theoretical chapter is an analysis of rules. The discussion includes attention to features of rules, classification of rules into various groups, and other related issues.

This chapter can be divided into five sections: I—rules, their statement and formulation; II—features of rule formulation; III—four main senses of rule; IV—discussion and application of senses of rule; V—summary.

Interpretation of Contents

Basic terms: rule(s), rule formulation, regulation sense, instruction sense, precept sense, principle sense, promulgators, subjects

Five leading propositions:

There is no special form of words conventionally reserved for the formulation of rules.

The general form of a rule formulation can be presented as follows: "Such-and-such actions in such-and-such circumstances, done by such-and-such persons (done by anybody), are forbidden (required, permitted)."

Rule formulation has two aspects: (1) a description of a class of actions and (2) an indication of whether that class of actions is forbidden (required, permitted).

Four types of rule are noted as "regulations," "instructions," "precepts," and "principles."

The primary activity on the part of the receiver of the instruction rule is to treat knowledge of the rule as an incentive to follow the means described for achieving the end in question.

Black has clarified the meanings of rules and how they can be formulated.

Criticism

This chapter, whi h will be of much help to educators, is concerned with the ar .ication aspect of education. In several publications (Fenstermacher, Macdonald, Schwab, Grobman) discussed in this bibliography which deal with the matter of practice, prescription is basic to the issues discussed. Therefore, this article by Black is helpful in clarifying important issues about rules—their formulation and use.

Joyce, Bruce R. *The Teacher and His Staff: Man, Media, and Machines.* Washington, D. C.: National Commission on Teacher Education and Professional Standards and the National Education Association, 1967. 28 pp.

Analysis of Structure

This booklet elaborates a hypothetical model for constructing an educational system in which many teachers and resources work together for the benefit of the individual student.

There are three parts to this booklet: I—introduction to the topic; II—exposition and application of the model; III—discussion of the teacher and kinds of learning.

Joyce hypothesizes a model which will bring together man, media, and machines (essential ingredients) to the benefit of the individual student.

Interpretation of Contents

Basic terms: direct instruction team, support center, inquiry center, computer support center, materials creation center, human relations center, guidance and evaluation center, personal inquiry, independent study, group inquiry

Five leading propositions:

Certain kinds of teaching are done only by professional team members or by professional teachers in the instructional support centers. All the team members, including the paraprofessionals, function in teaching roles.

The proposed human relations center is not a "life-adjustment factory" devoted to subordinating individuals to the interests of the group.

The team leader is not only a good teacher but also a master at coordinating the work of many other people and in developing curricular patterns tailored to students, place, subject matter, and capabilities of instructional materials.

The personal inquiry center teacher is there to aid the child through extending his uniqueness rather than imposing the stamp of the teacher upon him.

Each part of a child's day is spent working with a reasonably small group, usually from five to ten pupils.

The author argues that education is a complex task which requires many skilled persons and resources to be effectively accomplished.

Joyce has formulated and elaborated one model for organizing a school.

Criticism

This booklet makes a significant contribution to the dialogue of education. Many articles are filled with clichés about growth and development, about technology, and about personnel, but when it comes to what to do about the notions, there are few models. Here, Joyce has elaborated a model which should be discussed and attempted.

Of the six support systems outlined, i.e., computer, self-instruction, inquiry, materials center, human relations, and guidance and evaluation, the inquiry center and the human relations center seem to be the most provocative. The notion of a human relations center designed to help children develop interpersonal capability and flexibility is intriguing.

Joyce puts together many ideas about goals of education, about children, about materials, about staff, and about technology, and has drawn a conception of schooling which is farsighted and valuable.

Broudy, Harry S.; Smith, B. Othanel; and Burnett, Joe R. *Democracy and Excellence in American Secondary Education*. Chicago: Rand McNally & Co., 1964. 302 pp.

Analysis of Structure

This volume outlines a plan for a nongraded curriculum at the secondary level.

There are seven parts to this volume: I—educational ideals and shortcomings; II—demands of culture; III—ways of using school learning; IV—schema of learning; V—concepts of learning; VI—categories of content; VII—a program of studies.

The authors formulate a program of studies for secondary youth focusing on the content of instruction without overlooking the demands of our society and the student's development.

Interpretation of Contents

Basic terms: associative use of schooling, replicative use of schooling, applicative use of schooling, interpretive use of schooling, content, cognitive maps, evaluational maps, operations, developmental studies, norms

Seven leading propositions:

A society that can in any genuine sense be called democratic will call upon a very large proportion of its people, not just an elite handful, to think and feel as educated men and women think and feel.

What distinguishes teaching from all other forms of social behavior is that teaching behavior is controlled by the requirements of the body of knowledge and by the commitment to develop cognitive and valuative structures coordinate with that knowledge.

Maturation and learning are both necessary factors in the growth of the individual, and acquired behavior consists of the coordination of these two factors.

Readiness for learning must be considered with reference to two aspects of the educational program: the subject matter and the logical operations by which it is manipulated.

Concepts may be classified as descriptive or evaluatory.

A curriculum design has been sought that includes as many as possible of the major contents and operations from which the

pupils can build cognitive and evaluative maps of great generality and precision.

Content cannot be the variable element in adapting instruction to differences in ability. One can, however, vary the way it is taught, the rate at which it is taught, and the level at which it is taught.

Criticism

This is a specific attempt to draft a program of studies for a secondary school that focuses on the content of instruction. Publications of this nature are essential to bridge the gap between theory about child development, the demands of our society, and the nature of content. As programs are formulated, they can then be the subject of scholarly investigation. In this way, productive relations can be developed between theory, practice, and research.

The philosophical stance behind much of this volume is that of concern for helping a large proportion of our people to think and feel as educated men and women think and feel. Can there be any objection to this?

Maritain, Jacques. *Education at the Crossroads.* New Haven and London: Yale University Press, 1943. 120 pp. (Chapters 1 and 2 annotated here.)

Analysis of Structure

This book is concerned with man's nature and the task of education, which is seen as a means to help man form himself as man. Two of the four chapters are discussed here.

The first chapter considers the aims of education. It includes a discussion of the nature of man and education, the aims of education, and the paradoxes of education. The chapter can be organized into two sections: I—misconceptions of education; II—paradoxes of education.

Chapter 2 concerns the instrumentalities and dynamics of education. There are three sections: I—the dynamic factors; II—the fundamental dispositions to be fostered; III—the fundamental norms of education.

Interpretation of Contents

Basic terms: man, education, discipline, art, scientific idea of man, philosophic-religious idea of man, personality, individuality, freedom, truth, existence

Seven leading propositions:

Education is an art, and an especially difficult one.

The purely scientific idea of man is, and must be, a phenomenalized idea without reference to ultimate reality.

The education of man is a human awakening.

Without trust in truth there is no human effectiveness.

The main duty in the educational sphere of the school as well as of the state is not to shape the will and directly develop moral virtues in the youth, but to enlighten and strengthen reason so that it is an indirect influence exerted on the will by a sound development of the powers of thinking.

The third fundamental rule is to foster internal unity in man.

The fourth fundamental rule is that teaching results in the freeing of the mind through the mastery of reason over the things learned.

The author argues that the task of education is to guide the evolving dynamism through which man is formed into a truly human person. Such a person perfects himself by love and knowledge and is himself capable of giving. Necessary knowledge and discipline require a teacher. Maritain also proposes certain rules as basic to education.

Criticism

This is a very valuable but relatively unfamiliar volume. Certain terms and an atypical philosophic bent make it difficult for many to read. Some of the terms *(man, soul, truth, justice)* were not much discussed in education from 1943 to 1945. There are many thought-provoking notions such as "without trust in truth there is no human effectiveness" or "the essence of education does not consist in adapting a potential citizen to the conditions and interactions of social life, but first in making a man, and by this very fact in preparing a citizen."

This is a volume about which I ponder again and again. Profound implications for curriculum are revealed in Maritain's statement of seven misconceptions: (1) disregard for ends; (2) false ideas concerning the ends; (3) pragmatism; (4) sociologism; (5) intellectualism; (6) voluntarism; (7) the idea that everything can be learned.

Popham, W. J., and others. *Instructional Objectives.* American Educational Research Association Monograph Series on Curriculum Evaluation, 3. Washington, D.C.: American Educational Research Association, 1969. 142 pp.

Analysis of Structure

This book includes topics of interest regarding instructional objectives. The four authors focus on objectives as each one sees the problems and issues. An attempt was made to stimulate a dialogue—written and oral—all of which is reported in this volume.

The volume includes the four papers of Eisner, Popham, Sullivan, and Tyler; a record of a group discussion of each paper; and an epilogue written by each of the four. The volume consists of four parts: I—instructional and expressive educational objectives; II—objectives and instruction; III—objectives, evaluation, and improved learner achievement; IV—a case history: formulation of objectives from a psychoanalytic framework.

The authors attempted to deal with the complexities inherent in the formulation, definition, stating, and utilization of objectives.

Interpretation of Contents

Many of the same basic terms are used by the authors, but they are defined differently.

Seven leading propositions:

An expressive objective does not specify the behavior the student is to acquire after having engaged in one or more learning activities.

An expressive objective describes an educational encounter. It identifies a situation in which children are to work, a problem with which they are to cope, and a task in which they are to engage, but it does not specify what they are to learn from that encounter, situation, problem, or task.

Curriculum questions revolve around considerations of ends, that is, the objectives that an educational system hopes its learners will achieve.

Instructional questions revolve around the means used to achieve instructional ends.

One construct is that the learner produce a product (e.g., a drawing, article of clothing or furniture, map, essay, or examples of a particular concept) which meets specifications given either in class or in the test item itself.

Psychoanalysis is a science which provides significant insight into human behavior.

Maturity is impossible without self-knowledge, although self-knowledge is not all there is to maturity.

These authors all argue the importance of objectives, but there is considerable disagreement as to how to state them, what their function is, and how to derive them.

Criticism

Because I contributed to this document, my criticism is not most objective. I do think, however, that a great effort was made to stimulate and record a dialogue on the topic of instructional objectives between four concerned educators. The dialogue included might illustrate a fruitful technique for advancing the field, particularly in those areas where there is disagreement.

Grobman, Hulda. *Evaluation Activities of Curriculum Projects.* American Educational Research Association Monograph Series on Curriculum Evaluation, 2. Chicago: Rand McNally & Co., 1968. 136 pp.

Analysis of Structure

This book describes how the various issues and problems involved in the evaluation of curriculum projects were solved. An evaluation of various stances taken is presented. Much unidentified anecdotal material is reported.

There are three parts to this book: I—the context in which curriculum evaluation occurs; II—what is to be evaluated; III—how to evaluate.

The author deals with questions such as how objectives should be stated, whether the evaluator should be inside or outside of the

project, determination of the size of the sample, and what expectations are reasonable.

Interpretation of Contents

Basic terms: objectives, sample size, formative evaluation, summative evaluation, structured observations

Four leading propositions:

There is no consensus on the matter of statements of objectives.

Even the projects most concerned with behavioral statements do not ignore evaluative evidence simply because it is not germane to their lists of specified behavioral objectives.

Much summative evaluation can be done by outside investigators.

During the formative period, several of the early curriculum projects which critically turned over evaluation to outside agencies found it more satisfactory to direct the evaluation from within the project, while continuing to use outside consulting services.

Grobman has summarized the findings (behavior, policies) of the projects with regard to stating objectives, internal evaluation, and the like.

Criticism

This is a difficult book to criticize for several reasons. First, it is anecdotal (sometimes about important items and at other times about unimportant ones). Second, it fails to identify the projects discussed, and consequently there is little possibility for evaluating the comments. Third, the organization around questions of *what, whom,* and *how* include subheads not appropriate to these categories, e.g., "internal versus external evaluation" being found under what.

However, because it is a practical book, it must be evaluated by the criteria for judging a practical book. These are (a) Does it work? and (b) Does it lead to the right end? For example, if one returns to the volume and attempts to conclude what advice or practice is being suggested with regard to specifying project aims, it is difficult, or even impossible, to tell. On this matter, the volume concludes with a summary statement as to what has occurred.

To date, most projects have arrived at a middle ground, and even the projects most concerned with behavioral statement do

not ignore evaluative evidence simply because it is not germane to their lists of specified behavioral objectives.*

Other topics are treated in a similar manner and, because a reader is unable to determine the rule or prescription, this is an inadequate volume. I am sure the underlying rules are there, and it would be most useful if they were stated. Possibly, this book should be read as a theoretical book—a history. If so, then other criteria would need to be employed in its evaluation.

Bobbitt, Franklin. *How To Make A Curriculum*. Boston: Houghton Mifflin Co., 1924. 286 pp.

Analysis of Structure

This book describes the making of a curriculum. It concerns itself mainly not with how a staff works together, but rather with the objectives and the subject matter aspect of the problem.

There are six parts to this book: I—a preliminary survey; II—objectives; III—activities; IV—general education; V—chapters on "subject matter" and how it functions in general education as well as an indication of some possible objectives and activities; VI—administrative suggestions.

The author presents a plan for solving the problems of curriculum improvement.

Interpretation of Contents

Terms used: objectives, activities, activity analysis, skills

Five leading propositions:

The function of education is to prepare men and women for activities of every kind which make up, or which ought to make up, well-rounded adult life.

The first task is to discover the activities which ought to make up the lives of men and women and, along with these, the abilities and personal qualities necessary for their proper performance.

Nothing should be done by schools that can be sufficiently well accomplished through the normal processes of living.

---

*p. 27.

The comprehensive list of abilities should be determined wholly without reference to subjects or departments.

The activities and the experience are the curriculum.

Bobbitt argues that the function of education is to prepare individuals for future adult life; therefore a task analysis of what adults' lives should consist must be made. Once this has been determined, the abilities and personal qualities necessary for their performance will be formulated. Activities will be planned which relate to these objectives.

Criticism

It is interesting to read this "old" "new" book with its clear statement of objectives, task analysis, and the selection of subject matter only as such selection facilitates attainment of objectives.

Bobbitt's volume should help all curriculum workers maintain a sense of humility about their contributions to the field.

Mager, Robert F. *Preparing Instructional Objectives.* Palo Alto, Calif.: Fearon Publishers, 1962. 60 pp.

Analysis of Structure

This book attempts to develop the reader's skill in specifying and communicating educational intents according to three criteria, not all of which are necessary.

The book has four parts: I—why objectives must be stated; II—qualities of meaningful objectives; III—the three qualities necessary: (1) identifying terminal behavior, (2) imposed conditions, and (3) the criterion; IV—a self-test.

Interpretation of Contents

Basic terms: behavior, terminal behavior, criterion, objectives

Three leading propositions:

If clearly defined goals are lacking, there is no sound basis for

selecting appropriate materials, content, or instructional methods, and it is impossible to evaluate a course or program effectively.

A meaningfully stated objective succeeds in communicating intent.

Characteristics are identification of terminal behavior by name, description of important conditions under which the behavior is to occur, and specification of criteria of acceptable performance.

The author argues that when clearly defined goals are lacking, it is impossible to evaluate a course or program efficiently, and there is no sound basis for selecting appropriate materials, content, or instructional methods. Therefore, objectives must be meaningfully stated.

Mager succeeds in dealing with his problem in that he has written a programed text which provides an opportunity for the reader to acquire the skill of specifying intents.

Criticism

That objectives must be meaningfully stated is almost a truism in curriculum. Even for those who accept this, however, difficulty arises as to what is meant by "meaningfully stated." Objectives are utilized at various points in the curriculum—e.g., objectives for selecting a film, objectives for a year's instruction, objectives for an interaction with a student in a classroom, objectives for a lesson, objectives for programed instruction. Because of this multiplicity of situations in which objectives can be used and in which they should be stated differently, Mager's is not a useful set of rules to utilize. While it might appear that he is attempting to make the utilization of all three rules flexible, he gives no principles to enable a reader to decide which rule is applicable except the idea that objectives must communicate clearly.

Possibly if the place in the curriculum process at which objectives as outlined here could be utilized had been indicated, the suggestions would be helpful. Because it was not, this volume is of limited value and may lead the student into difficulty. Adequate criteria for stating objectives will emerge when the place and meaning of objectives in curriculum have been carefully set forth. As yet, this question has not been adequately conceptualized. This book is an incomplete prescription for preparing instructional objectives.

Herrick, Virgil E. *Strategies of Curriculum Development.* (Edited by James B. Macdonald, Dan W. Anderson, and Frank B. May.) Columbus, Ohio: Charles E. Merrill Books, 1965. 196 pp. (Chapter 3, "A Curriculum Design," pp. 39-47; Chapter 6, "Establishing and Using Objectives," pp. 89-106; and Chapter 7, "Organizing Centers," pp. 107-113, annotated here.)

CHAPTER 3, "A CURRICULUM DESIGN"

Analysis of Structure

This practical chapter outlines a particular curriculum design—the experience curriculum.

The chapter has four sections: I—introduction; II—planning and the experience curriculum; III—concepts underlying the experience curriculum; IV—problems of planning.

Interpretation of Contents

Basic term: experience curriculum

Four leading propositions:

The experience curriculum emphasizes the immediate conditions surrounding the child and his concerns or purposes as the central basis for curriculum planning.

Personal concerns of the child and the development of his concerns provide the basis for dealing with the social needs of the society in which he lives.

The basic planning unit of the experience curriculum is the teacher and the class group.

Planning for the experience curriculum is done by the teacher, the pupil, the staff, and the community.

CHAPTER 6, "ESTABLISHING AND USING OBJECTIVES"

Analysis of Structure

This chapter has four sections: I—ways of considering objectives; II—functions of objectives; III—statement of objectives; IV—definition of objectives.

Herrick deals here with objectives, their place and meaning in curriculum.

Interpretation of Contents

Six leading propositions:

Objectives define the direction of educational development.

Objectives help select desirable learning experiences.

Objectives help define the emphasis of an educational program.

Statements of objectives are better if unnecessary words and phrases are left out.

Three methods of definition for objectives are proposed: by essential components, by operational definition, and by behavioral factors.

Behavioral definitions are better formulated when the essential components of the objective have been defined.

CHAPTER 7, "ORGANIZING CENTERS"

Analysis of Structure

This chapter outlines and illustrates the qualities of good organizing centers.

There are four sections: I—introduction; II—continuity of learning; III—qualities of good organizing centers and illustrations; IV—causes of behavior.

Interpretation of Contents

Basic term: organizing center

Five leading propositions:

Organizing centers hold promise for activities that are of intrinsic interest.

Organizing centers must be accessible, e.g., at an appropriate reading level.

Organizing centers encourage "catch-holds" or "running."

Two types of organizing centers are "big ideas" and "problems of living."

Because a child is a complex organism, multiple and interrelated causes of behavior must be sought.

Criticism

This volume is a collection of papers by the late Virgil Herrick. The chapter on objectives has many clear statements about errors to avoid in the statement of objectives. The chapter on organizing centers makes obvious the complexity of issues involving the selection of organizing centers while also indicating some types of organizing centers.

Herrick's contribution to curriculum is in the ends-means tradition with an empirical orientation. At the same time, he called for creative approaches to research methodology as well as for validation of practice.

Herrick's writing should also increase feelings of humility in educators: their so-called new ideas are frequently not new at all.

Barton, George E., Jr. "Educational Objectives—Improvement of Curricular Theory About Their Determination." *Toward Improved Curriculum Theory.* (Compiled and edited by Virgil E. Herrick and Ralph W. Tyler.) Chicago: University of Chicago Press, 1950. pp. 26-35.

Analysis of Structure

This article is concerned with how to improve curricular theory about the determination of objectives.

There are three sections to the article: I—an indication of the problem; II—an elaboration of the place of a general theory of values; III—solutions to the problem: (a) training workers in philosophy and education and (b) working on the language problem.

The author attempts to deal with the problem of how to improve the determination of educational objectives by focusing on the treatment of value judgments.

Interpretation of Contents

Basic terms: objectives, values, curricular theory, criteria, practice, metatheory, levels

Five leading propositions:

A systematic way of making value judgments is needed.

Potentially all-inclusive principles are needed.

Principles which are neither irremediably antipragmatic, anti-realistic, anti-idealistic, or anti-anything else nor irremediably pro-anything are needed.

Principles which permit us to deal with systems as systems are needed.

We need the ability to say better things to each other on our own plateau.

The author argues that values are important in determining objectives and that a general theory of values would be useful. Furthermore, there is a need for improved communication; people need to learn to speak to each other.

Barton presents his solution indirectly in terms of personnel who have been trained in certain intellectual skills of communication.

Criticism

The problem involving the utilization of values in determining educational objectives that Barton outlines is a significant one. His solution—improving communication between workers in education—might work.

It is somewhat disappointing, however, in view of the fascinating discussion about the general theory of value and the basic types of philosophy, that the solution as formulated has to do with training personnel rather than with the issue itself.

Goodlad, John I.; Stoephasius, Renata von; and Klein, M. Frances. *The Changing School Curriculum*. New York: Fund for the Advancement of Education, 1966. 122 pp.

Analysis of Structure

This book describes and critiques the changing school curriculum. There are four parts to the book: I—an overview of shaping forces and characteristics of the changing curriculum; II—descriptions of major curricular projects; III—problems and issues of these projects organized around the commonplaces of aims and objectives, organization, evaluation, and instruction; IV—discussion of the problems

and issues of balance in the curriculum, experimentation, self-renewal, authority, and responsibility, and the final question of the kind of persons we wish our schools to produce.

Interpretation of Contents

Basic terms: aims, objectives, organization, evaluation, instruction, experimentation, balance, self-renewal, authority, and responsibility

Five leading propositions:

The citizenry is responsible for determining the aims of America's schools.

Experimentation is an essential aspect of curriculum development.

Curriculum study centers must be established.

A significant reform movement will plan the curriculum from the bottom up. Knowledge of students and their achievements will be built into the subject matter sequence.

An important question that must be focused on is, What kinds of persons do we wish our schools to produce?

The authors argue that formulation of aims is essential and must fall to American citizenry as a whole. Because this has not been done, curriculum projects have formulated objectives whose validity against aims has not been checked. Projects have been forced to turn to school subjects for determination of ends and means, and there is no external criterion for validation. This has resulted in imbalance, reliance upon subjects, and assumption of responsibilities which are not appropriate.

The authors describe many of the curriculum projects and make evaluative comments of the total movement with regard to some curriculum commonplaces. For example, "Persons involved in the various curriculum projects are not and, indeed, should not be solely responsible for determining the aims of America's schools."* In addition, the authors presented solutions: e.g., "One long term solution is for state and local boards of education to agree on the purposes and objectives of our schools. This they have not done or seem about to do."**

---

*p. 92.
**p. 93.

Criticism

Changing School Curriculum can be judged in various ways. First, the authors have adequately described and critiqued the changing school curriculum in the light of three important curriculum commonplaces: aims and objectives, organization, and evaluation. It is an extremely valuable text in this regard. For example, a summary statement about objectives:

> Objectives stress the importance of understanding the structure of the discipline, the purposes and methods of the field, and the part that creative men and women have played in developing the field.*

This has great power in making "sense" out of the projects.

However, completeness is another criterion. A reader wants more from this booklet than is forthcoming. Its last paragraph indicates a basic tantalyzing question: What kind of persons do we wish our schools to produce? This should be further attended to by Goodlad and other curriculum scholars.

Bloom, Benjamin S., editor. *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain*. New York: Longmans Green and Co., 1956. 207 pp.

Analysis of Structure

This book conceptualizes a taxonomy of educational objectives in the cognitive domain. It is intended to provide for classification of the cognitive goals of our educational system and to help educators discuss curriculum and evaluation problems with greater precision.

There are two parts to the volume: I—introduction and explanation; II—the taxonomy, explained and illustrated. Part I has sections on (a) history and development, (b) the nature and development of the taxonomy, (c) relationship of objectives to curriculum develop-

---

*p. 92.

ment, and (d) problems of classifying objectives and a test on classification. Part II has six sections which constitute the taxonomy: knowledge, comprehension, application, analysis, synthesis, and evaluation.

The problems the authors were concerned with were (a) to improve communication and (b) to stimulate research on examining and education.

Interpretation of Contents

Basic terms: taxonomy, knowledge, comprehension, application, analysis, synthesis, evaluation, behavior, objectives, hierarchy, cognitive

Four leading propositions:

A taxonomy is a classification of behaviors which represent intended outcomes.

Objectives in one class of human behavior are likely to make use of and build upon behaviors found in preceding classes. Knowledge includes those behaviors and test situations which emphasize the remembering, either by recognition or recall, of ideas, material, or phenomena.

Cognitive objectives are ordered from simple to complex. Application is the use of an appropriate abstraction in situations in which no mode of solution is specified. Analysis emphasizes the breakdown of the material into its constituent parts and the detection of the relationships of the parts and the way they are organized.

The hierarchical ordering of cognitive objectives is proposed as knowledge, comprehension, application, analysis, synthesis, and finally, evaluation.

Criticism

The ideas in this volume have been utilized to a great extent by evaluators and curriculum workers. The stated purposes of facilitating communication and stimulating research have been accomplished to a remarkable degree. There is some empirical evidence supporting the organization outlined by Bloom for the classification of behaviors in the cognitive domain.

It is doubtful that behaviors can be separated into arbitrary domains such as the cognitive, the affective, and the psychomotor, but this difficulty was not so obvious when the cognitive domain

was first being formulated. Despite this criticism, the usefulness of the taxonomy is still great. Analysis, criticism, and experimental evaluation of a course of study, of examinations, of a curriculum, and of programed instruction are more meaningful when statements can be made about the kinds of objectives being aimed at, the degree of attainment of objectives, and the like.

Bloom's taxonomy should be read along with the Krathwohl and Simpson volumes. Finally, Loree's article on the relationship among the three domains is an essential part of the "taxonomy package."

Krathwohl, David; Bloom, Benjamin S.; and Masia, Bertram. *Taxonomy of Educational Objectives, Handbook II: Affective Domain.* New York: David McKay Co., 1964. 196 pp.

Analysis of Structure

This book elaborates a taxonomy of educational objectives in the affective domain. It is intended to provide a bridge for communication among teachers and between teachers, research workers, psychologists, and other behavioral scientists. Furthermore, it aims at defining affective objectives more clearly and helping teachers become aware of techniques for appraising them.

There are two parts to this volume: Part I is concerned with introduction and explanation and has chapters on need for classification, the basis for the classification, the relationship of the affective to the cognitive domains, some examples, a test on classification, and an exposition of research problems; Part II is an explanation and illustration of the taxonomy.

The authors were concerned with improving communication and stimulating research on examining and education.

Interpretation of Contents

Basic terms: taxonomy, cognitive, affective, receiving, responding, valuing, organization, characterization, internalization

Five leading propositions:

Components are ordered in a way which describes a process

by which a given phenomenon or value is operant from a level of bare awareness to a position of some power to guide or control the behavior of a person.

Receiving is a sensitivity to the existence of certain phenomena and stimuli.

Responding goes beyond mere attending. One does something with or about the phenomenon.

Valuing is a behavior illustrating that a thing, phenomenon, or behavior is reacted to as having worth.

The ordering of affective objectives is receiving, responding, valuing, organizing, and characterizing.

The authors argue that internalization is the organizing principle which orders the components from a level of bare awareness to a position of guiding or controlling an individual's behaviors.

Criticism

This volume on the affective domain has not been utilized nearly to the extent of the volume on the cognitive domain. (The cognitive domain was first discussed around 1949 and published in 1956, whereas the affective domain was published in 1964.) Whether the affective domain will be used and investigated as the cognitive domain has been is doubtful. The objectives in the affective area are more controversial and subject to change, as well as being difficult to investigate. However, behavior of an affective nature is important and needs scholarly investigation.

The authors' discussion of the relationships between the cognitive and affective domains is particularly valuable in pointing out that separation of objectives into cognitive and affective is somewhat artificial. The particular relationships are determined by the learning experiences the students have had. This notion, of course, has many implications for curriculum.

Unfortunately, there are two obvious difficulties in the document. (The authors are fully aware of these.) First, on what basis have objectives been classified? Why is an objective such as "awareness of the works of famous musical composers" classified in the affective domain? Why not in the cognitive as a knowledge? Second, the test items which have been selected for illustrations of evaluation for the various objectives are very questionable on the basis of "face validity."

Even with its obvious inadequacies, it was essential that the affec-

tive domain volume be published so that impetus could be given to this important area.

Loree's article on "Relationships Among Three Domains of Educational Objectives" is very pertinent and should be read in conjunction with this taxonomy.

Simpson, Elizabeth Jane. "The Classification of Educational Objectives, Psychomotor Domain." *Illinois Teacher of Home Economics* 10: 110-44; Winter 1966-67.

Analysis of Structure

This article elaborates upon the development of a classification system for educational objectives in the psychomotor domain.

There are four parts: I – the introduction has three sections dealing with (1) the need, (2) difficulties of the task, (3) first steps; Part II is a review of the literature pertaining to skills, perceptions, and so forth; Part III outlines procedures utilized in developing the classification system; Part IV is the tentative classification system.

The author attempts to solve the problem of whether a classification system in taxonomic form can be developed.

Interpretation of Contents

Basic terms: classification system, taxonomic form, theory, perception, skill, motor act, sets, guided response, mechanism, complex overt response

Four leading propositions:

Psychomotor objectives are those which "emphasize some muscular or motor skill, some manipulation of material and objects, or some act which requires a neuromuscular coordination."

The major organizational principle operating is that of complexity, with attention to the sequence involved in the performance of a motor act.

The sequence proposed is from perception to set to guided response to mechanism to complex overt response.

A mechanism is a learned response that has become habitual.

Simpson is very tentative about the ordering of the categories and indicates that the question is of there being sufficient distinction

between categories. The organizing principle is complexity, with attention to the sequence involved in the motor activity.

Criticism

This publication's recency makes it impossible to determine whether it has improved communication and led to any research. I think inquiry will continue in this area of behavior as a consequence of this document.

Some of the same difficulties are present in this document as in the Bloom and Krathwohl volumes, e.g., whether the psychomotor behaviors can be separated from cognitive and affective behaviors and whether the objectives indicated in the five classes are correctly classified. (An example of this latter difficulty is to classify "ability to mix ingredients for a butter cake" under 4.00—Mechanism.)

This document points out some of the difficulties inherent in the two volumes on the cognitive and affective domains, but unfortunately, it does not adequately cope with them.

This volume should be read in conjunction with the other two taxonomies and with the Loree article on "Relationships Among the Three Domains."

Loree, M. Ray. "Relationship Among Three Domains of Educational Objectives." *Contemporary Issues in Home Economics: A Conference Report*. Washington, D.C.: National Education Association, 1965. pp. 69-80.

Analysis of Structure

This article elaborates upon the relationship among the three domains of educational objectives.

The article has six sections: I—setting of the stage: mediating processes and overt responses; II—discussion of taxonomies; III—elaboration of action: pattern domain; IV—relationship of three domains; V—relationship of three domains and research on attitudes; VI—conclusions.

The author probes the relationship between the three taxonomies with regard to the concept that learning is a change in overt behavior.

Interpretation of Contents

Basic terms: cognitive, affective, psychomotor, mediating processes, action pattern

Four leading propositions:

Learning occurs within the organism and is not merely the responses attached to specific stimuli.

In evaluating the attainment of such objectives (cognitive and affective) we observe overt behavior but only to make inferences concerning cognitive or affective mediating processes.

In psychomotor objectives overt behavior is the essence of the objective.

The overt behavior of acting out a belief system opposite to one's own may be effective in changing one's own belief system.

Loree argues that learning has been described as changes in overt behavior patterns. Some psychologists, however, are inquiring into the possibility that learning is constituted as the mediating processes which occur within the organism. From this point of view, the cognitive and affective taxonomies are the mediating process domains while the psychomotor is concerned with overt responses. Implications are drawn for curriculum.

Criticism

This is a first article elaborating upon the relationship between the three domains—cognitive, affective, and psychomotor. Some question is raised about whether overt behavior responses constitute learning.

This very significant article may help to highlight questions about the whole notion of overt behavior responses as being the *sine qua non* of learning. Loree's ideas may stimulate thought toward redefining the term *objective* and/or clarifying some ideas which have been accepted (e.g., that an objective is a change in the learner's behavior—using the word *behavior* to mean thought, feeling, action).

If rules were formulated on the basis of Loree's article, they would probably be more useful than those formulated from the other volumes on the domains.

Phenix, Philip. "Key Concepts and the Crisis in Learning." *Teachers College Record* 58: 137-43; December 1956.

Analysis of Structure

This article discusses the crisis in learning and suggests one way of alleviating it.

There are four parts to the article: I—statement of the problem; II—proposal of solution: key concepts; III—illustrations of key concepts; IV—conclusions.

The author treats the problem of the great disproportion between what is available, and necessary, to be known and the capacity of the individual to know it.

Interpretation of Contents

Basic terms: key concepts, abstraction, public verification, fruitfulness, axiomatic, interpretation, concrete, individual whole, significant form, ultimate concern

Seven leading propositions:

Each bit of knowledge resides within one or more characteristic frameworks.

The economizing power of human intelligence lies in its ability to form class concepts.

By a careful analysis of the structure of knowledge it is possible to discover certain key concepts which are distinguished by their power to epitomize important common features of a large number of more particular ideas.

One key conception in science is abstraction.

One key idea of all mathematics is the concept of the axiomatic, according to which mathematical entities are created by human decision about symbols and the rules of combination applicable to them.

One key to history is the concept of interpretation.

One possible unitary principle for religion is the idea of ultimate concern or of the controlling life orientation for a group or an individual.

Phenix argues that there is a disproportion between what is available, and necessary, to be known and the capacity of the individual to know it. To alleviate this, he suggests that teaching and learning

must be organized so that the individual's limited capacity to learn is most efficiently utilized. To do this he analyzes knowledge and presents certain key concepts in selected disciplines.

Criticism

This is one of the first articles in which the concept of the structure of knowledge was discussed. As such, and in light of subsequent work, it has great historical significance. Furthermore, it is clear and well-written.

The article does not elaborate as to how the key concepts are to be acquired, and it does not mention the degree of agreement about these concepts among scholars. But it was a first attempt to specify the crisis which exists as a result of the disproportion between the mass of information available and the individual's ability to master it and to propose key concepts derived from structure as one way to alleviate the difficulty.

Phenix's proposition of key concepts is useful in enabling one to grasp the essences of fields of knowledge. For example, if one accepts interpretation as a key concept of history, it is fascinating to formulate appropriate objectives for instruction in history.

Bruner, Jerome S. *The Process of Education*. Cambridge: Harvard University Press, 1960. 97 pp.

Analysis of Structure

This book outlines four themes and one conjecture.

There are six parts: I—introduction; II—the importance of structure; III—readiness for learning; IV—intuitive and analytic thinking; V—motives for learning; VI—aids to teaching.

The author, who was the chairman of the conference at Woods Hole, drafted this statement of the "sense of the meeting."

Interpretation of Contents

Basic terms: structure, intuitive and analytic thinking

Five leading propositions:

To learn structure, in short, is to learn how things are related.

Mastery of the fundamental ideas of a field involves not only the grasping of general principles, but also the development of an attitude toward learning and inquiry, toward guessing and hunches, and toward the possibility of solving problems on one's own.

Any subject can be taught effectively in some intellectually honest form to any child at any stage of development. This is a bold hypothesis and an essential one in thinking about the nature of a curriculum. No evidence exists to contradict it; considerable evidence is being amassed to support it.

The intellectual development of the child follows no clockwork sequence; it responds to influences from the environment, notably the school environment.

It may be of the first importance to establish an intuitive understanding of materials before exposing students to more traditional and formal methods of deduction and proof.

Bruner argues that the structure of knowledge of learning and the best minds in any particular discipline must be put to work to design a curriculum that is true to its structure.

Furthermore, he holds that the environment can help the child forge ahead in his development. Finally, knowledge about the nature of intuitive thinking might be of great aid to those charged with curriculum construction and teaching.

Criticism

This is a summary of a conference on educational methods, particularly in science and mathematics. If any thorough understanding of what is meant by the structure of knowledge is desired, this book must be supplemented by others. Additional writings by Schwab and Phenix are helpful in clarifying what is meant by structure and what some of the curriculum implications might be.

It is of interest to determine why Bruner's statement of the hypothesis "that any subject can be taught effectively in some intellectually honest form to any child at any stage of development" has so readily been turned into a "law" by educators. One particularly wonders why when similar statements have been in the educational literature for so long.

Certainly, an area to explore is why some individuals' statements about education appear to have such political significance. It is time for a curriculum historian to emerge.

Schwab, Joseph J. "Structure of the Disciplines: Meanings and Significances." *The Structure of Knowledge and the Curriculum.* (Edited by G. W. Ford and Lawrence Pugno.) Chicago: Rand McNally & Co., 1964. pp. 6-30.

Analysis of Structure

This paper is an elaboration of some ideas about the structure of the disciplines. It is concerned with three sets of specific problems which together constitute the general problem: (1) organization of the disciplines, (2) the substantive conceptual structures of each discipline, and (3) the syntax of each discipline.

There are four parts to the article: I—a general introduction to the topic; II—the problem of the organization of the disciplines and its significance; III—the problem of the syntax of the disciplines and its significance; IV—the problem of the substantive structures of the disciplines and its significance.

The author presents some of the essential ideas about the problem of the structure of the disciplines and how these ideas relate to curriculum.

Interpretation of Contents

Basic terms: structure, organization, syntax, substantive structures, theoretical, practical, productive

Eight leading propositions:

The problem of organization is a problem of classification.

The basic divisions of disciplines are the theoretical, the practical, and the productive.

Theoretical disciplines seek knowledge of different kinds (commensurate to their subject matters) and hence, use different methods and different canons of evidence and warrantability.

"Induction" is not the name for some single, definite process but merely an honorific word attached by various philosophers to whatever mode of inquiry they favor.

The significance of this variety of modes of inquiry, of patterns of discovery and verification, lies in this: Most statements of most disciplines are like the single words of a sentence. They take their most telling meanings, not from their dictionary sense, not from their sense taken in isolation, but from their context—their place in the syntax.

The substantive principles chosen to guide inquiry are reliability and validity.

Reliability requires that the guiding principle be free of vagueness and ambiguity, and that the measurements or manipulations of these referents can be made precisely and can be repeated with uniform results.

If students discover how one body of knowledge succeeds another, if they are aware of the substantive structures that underlie current knowledge, if they are given a little freedom to speculate on the possible changes in structure which the future may bring, they will not only be prepared to meet future revisions with intelligence but will also better understand the knowledge they are currently being taught.

Schwab argues that the problem of organization of the disciplines is that of classification and suggests that the organization of the disciplines into theoretical, practical, and productive is worth considering. Furthermore, only by knowing their method of inquiry is it possible to understand the statements of the disciplines. Also, that inquiry is guided by substantive structures. These notions about the disciplines have implications for teaching and learning.

Criticism

Along with Phenix's article on "Key Concepts and the Crisis in Learning," this chapter raises very clearly the fundamental questions of organization of the disciplines, of concepts, and of syntax. In addition, the implications for the curriculum are quite obvious, and as a consequence, it is fairly easy to formulate significant and appropriate objectives and content for the various areas of knowledge. This chapter is simply written, with ample examples.

The value of this chapter is primarily in the fairly explicit rules which can help in formulating some answers to curriculum questions within an orientation of the structure of knowledge.

Bellack, A. "Knowledge Structure and the Curriculum." *Education and the Structure of Knowledge*. Chicago: Rand McNally & Co., 1964. Chapter 8, pp. 263-77.

Analysis of Structure

This chapter outlines some of the implications of the structure of knowledge and is directed to the curriculum theorist.

There are two sections to the chapter: I—introduction; II—discussion of three questions stemming from the structure of knowledge. These questions have to do with the organization within categories of knowledge with relation to human affairs, with the relationship between the logic of the disciplines, and with the psychological order of the student's cognitive development.

Interpretation of Contents

Three leading propositions:

To focus exclusive attention on certain aspects of the social world as seen through the eyes of one or two of the social sciences is to give students a myopic vision of man's social behavior and his institutions.

Students must be helped to see the limitations as well as the uses of a single discipline in interpreting events as they actually occur.

One might envision a general education program that would include basic instruction in the fields of knowledge . . . together with a coordinating seminar in which students dealt with problems in the round and in which special effort was made to show the intimate relationships between the field of study, as concepts from those fields were brought to bear on these problems.

The author presents a strong case for the need for scholarly work on the matter of organization of instruction, on relating knowledge to human affairs, and on relating the logical and psychological components.

Criticism

Bellack has presented the curriculum theorist with three problems related to the structure of knowledge. It has been said that it is more significant to raise important questions than to give answers, and

Bellack has certainly raised them. Fortunately, however, he also gives some answers. For example, he suggests that students must be helped to see the limitations as well as the uses of a single discipline. Also, Bellack has some suggestions for practice to help bridge the gap between the structure of knowledge and the curriculum.

Fraser, Dorothy M. *Current Curriculum Studies in Academic Subjects.* A Working Paper Prepared for The Project on the Instructional Program of the Public Schools. Washington, D.C.: National Education Association, 1962. 102 pp.

Analysis of Structure

This report provides information about curriculum developments which occurred during the 1950's and 1960's. It includes projects, reports, and statements in science, mathematics, English, language arts, modern languages, and social studies.

The report has three main sections: I—discussion of the educational setting; II—descriptions of projects and documents; III—using the results of studies.

The author does not attempt to evaluate or make recommendations about the projects described in the volume.

Interpretation of Content

Five leading propositions:

Most of the major curriculum projects in the sciences concentrate on single subjects within the field.

The chief emphasis in the elementary school mathematics projects has been on the discovery of what mathematical concepts children can comprehend and on experimental methods of presentation.

Especially at the senior high school level, it is doubtful that the recommendations for individualized and wide reading programs to supplement class study of selected literary masterpieces have been generally accepted.

While there has been an apparent growth in agreement regarding the importance of foreign language study in the schools, a number of points of disagreement remain.

In applying the proposals of special curriculum projects to school practice, balance and continuity in the student's total school experience should be maintained.

Fraser summarized curriculum projects and documents in existence during the 1950's and 1960's, and presented four guidelines to facilitate the wise and effective use of the material presented.

Criticism

The appearance of so many curriculum projects with accompanying instructional packages has been a confusing, overwhelming experience for many practitioners and researchers in education. Fortunately, in 1962 Dorothy Fraser did a careful review of recent curriculum studies in the academic subjects. This publication was a treasure because of the wealth of information made easily available about source and amount of support, purpose, rationale, testing, content, materials, and evaluation of these projects.

The position was taken that there would be no evaluation or recommendations made about any of these projects. Fortunately, Fraser indicated four guiding principles for making wise, effective use of curriculum plans and materials.

This latter kind of intellectual activity is important and necessary for the improvement of education. Some writers must be willing to make value-laden statements about curriculum. Fraser's guiding principles are a step in this direction.

Payne, Arlene. *The Study of Curriculum Plans.* Washington, D.C.: Center for the Study of Instruction, a division of the National Education Association, 1969. 40 pp.

Analysis of Structure

This booklet presents concepts and procedures for analyzing curriculum plans and illustrates them by their application to a study guide.

There are two main sections to this document: I—concepts and procedures; II—application of concepts and procedures to a study guide.

Interpretation of Contents

Basic terms: curriculum plans, formal planning, informal planning, descriptive analysis, decisions and recommendations, justification for decisions, form of presentation

Six leading propositions:

In the analysis of curriculum plans, it is helpful to recognize the distinction between descriptive and evaluative purposes. The intent may be to describe the content and general nature of the existing plans without a particular predetermined standard of what they should be. The intent may also be to evaluate the plans by comparison with some standard such as a selected model or set of criteria.

Description and judgment are not completely independent processes.

The choice is one of intent or emphasis and depends on whether there is a conscious determination of the criteria for judging the plans prior to analyzing them.

Three questions to ask in analyzing curriculum plans are—

1. Is there a statement of goals?
2. Does the plan give specific activities or methods for teachers?
3. What is the general emphasis in type of activities?

Two evaluative criteria are inescapable in the descriptive analysis of curriculum documents—clarity of meaning and internal consistency.

A second source of criteria for judging the formal curriculum plans is a theory or point of view about learning and instruction.

Payne argues that the procedure for a descriptive analysis of curriculum plans includes questions which pertain to such items as objectives, activities, and evaluation methods. Two evaluative criteria are inescapable even in a descriptive analysis. Evaluative criteria may be drawn from a variety of sources and for a variety of reasons. These sources are indicated.

Criticism

This useful framework for studying curriculum plans has two facets: descriptive and evaluative. This way of looking at curriculum

plans is similar to statements which are made about evaluation in that it involves two processes, description and judgment. While useful, there is a degree of artificiality in this separation because Payne is obligated, even in the descriptive analysis, to specify that two evaluative criteria are inescapable in the descriptive analysis.

It might be useful to collapse the separation and formulate a more fundamental set of criteria.

Popham, W. J., and Baker, Eva L. *Rules for the Development of Instructional Products.* Inglewood, Calif.: Southwest Regional Laboratory for Educational Research and Development, 1967. 61 pp.

Analysis of Structure

This document outlines the rules for development of instructional products.

There are four parts to this document: I—introduction and organization of programs; II—description of product development cycle; III—presentation of rules for each stage of cycle and appropriate practice exercises; IV—a set of criterion exercises.

The authors attempt to develop a program which will instruct the reader in rules which have been intuitively derived by experienced product developers.

Interpretation of Contents

Basic terms: formulation, instructional specification, prototype item tryout, product development, product tryout, product revision, operations analysis

Five leading propositions:

Do not take too much time formulating.

Make sure that the sophistication of the intended product is consonant with the importance of the intended objectives.

All instructional objectives must be stated in terms of the learner's postinstruction behavior.

The criterion test must be completely developed prior to the development of the instructional product.

An attempt to promote the learner's interest in the instructional product should be made.

The authors operate within the ends-means conception of education and have formulated a document which specifies rules appropriate to that conception. This conception involves stating objectives, supplying appropriate practice, trying out, and, on the basis of empirical evidence, revising the product.

Criticism

Product development is a new field of development in educational literature. There have always been products in education—i.e., texts, films, filmstrips—but until recently there has been no attempt to set down what has occurred or the principles or rules which have guided the development of products. Instrumental in this development has been the work of W. James Popham. It is of tremendous importance for the field of education. If educators (and writers and publishers) can utilize sound principles for the development of instructional products and consequently develop effective instructional products, the field of education will have made tremendous strides. Medicine has made great progress with the development of carefully tested drugs—education can do the same.

This material of Popham and Baker should be read in relation to *Standards for Educational and Psychological Tests and Manuals*, as well as the material by Tyler and Klein, "Recommendations for Curriculum and Instructional Materials" and *Recommendations for Reporting the Effectiveness of Programed Instructional Materials.*

Joint Committee on Programed Instruction and Teaching Machines. Chairman, Arthur A. Lumsdaine. *Recommendations for Reporting the Effectiveness of Programed Instructional Materials.* Washington, D. C.: Division of Audiovisual Instruction, National Education Association, 1966. 35 pp.

Analysis of Structure

This document outlines recommendations for reporting the effectiveness of programed instruction materials.

There are four parts to this document: I—recommendations for reporting the effectiveness of programed materials; II—supplement 1, recommendations for program manuals; III—supplement 2, recommendations for technical reports; IV—criteria for assessing programed instructional materials.

This publication of the Joint Committee was concerned with formulation of recommendations intended to help in improving the effectiveness of program selection and utilization.

Interpretation of Contents

Basic terms: appropriateness, practicality, effectiveness, content, rationale, criterion measures, experimental design, reproducibility

Five leading propositions:

Evidence for the effectiveness of a program should be based on a carefully conducted study which shows what the program's use accomplished under specified conditions.

The results of the evaluation study should be carefully documented in a technical report prepared in keeping with accepted standards for scientific reporting.

All claims or statements about the effectiveness of a program should be supported by a specific reference to the evidence contained in the technical report.

To help the user decide whether the program content is appropriate for his purpose, the program manual should state in detail the minimum objectives of the program, preferably by specifying student behaviors or competencies which its use is intended to achieve.

The report should identify in detail the characteristics of the students tested, including data on such factors as age, grade level, intelligence test scores, reading ability, scholastic record, and initial competence of the kinds measured as outcomes.

The Committee's position is an empirically oriented view that "the proof of the pudding is in the eating"; it has formulated recommendations consistent with this position so that selection and utilization can be improved.

Criticism

This booklet presents excellent rules for selection and utilization of programed materials. It is similar in its purpose to the *Standards for Educational and Psychological Tests and Manuals.* If educators

demanded the kind of reports about programed materials specified by this booklet, our educational programs would be more effective. This document should be in every school reference library for the staff.

The recommendations that appear in this booklet are in the behavioral tradition. They are significant and should be utilized. These recommendations are appropriate for a product such as programed instruction, and probably equally so for others. Of course, the question arises as to the effect of the context in which a product is utilized. That too can be investigated.

Other publications useful in this area are Popham and Baker, Tyler and Klein, and *Standards for Educational and Psychological Tests and Manuals.*

Tyler, Louise L., and Klein, M. Frances. "Recommendations for Curriculum and Instructional Materials." Los Angeles: University of California at Los Angeles, 1969. 15 pp. (Mimeo.) (Delivered as a paper to the annual meeting of the American Educational Research Association, Chicago, February 1968.)

Analysis of Structure

This document outlines recommendations for the development and selection of curriculum and instructional materials.

The recommendations are grouped into seven categories: rationale, specifications, appropriateness, effectiveness, conditions, practicability, and dissemination.

The authors formulate recommendations about which there is some consensus so that more effective curriculum and instructional materials can be selected and/or developed.

Interpretation of Contents

Basic terms: rationale, specifications, behavior, evaluation, technical manual

Four leading propositions:

The value of objectives must be substantiated.

Learning opportunities should be directly related to the behavior and content of the specified objectives.

The technical manual should state the objectives in detail. The kind of student for whom the curriculum and instructional materials are designed should be specified.

The authors present a framework of ends-means thinking with considerable concern for empirical orientation.

Criticism

Because I was involved as an author in this publication, my objectivity can be questioned.

A statement by Stake and Denny may be of some use:

> Louise Tyler's recent report presents workable guidelines for the development of a list of specifications termed "essential," "necessary," and "needed" for published materials of instruction. The organization, format, and spirit of this report are comparable to those of the APA Standards for Educational and Psychological Tests and Manuals, and Lumsdaine's guidelines for programed instruction. Hopefully, research institutes, consortia, laboratories, professional groups, and individual researchers will attempt to produce needed analytical techniques to assess the structure coverage of the content of instructional materials as well as to produce performance criteria for evaluating the behavior of the users of such materials under a variety of specifiable conditions of use .... Hopefully, the impetus provided by Tyler and others for specifications of standards will be sustained and a coherent set of systematic techniques for scrutiny of existing materials will emerge.*

School Health Education Study. *Health Education: A Conceptual Approach to Curriculum Design*. Washington, D.C.: 3M Education Press, 1967. 141 pp.

Analysis of Structure

The School Health Education Study was initiated in 1961 under the direction of Elena M. Sliepcevich. Its work was financed from

---

*Stake, Robert E., and Denny, Terry. "Needed Concepts and Techniques for Utilizing More Fully the Potential of Evaluation." *Educational Evaluation: New Roles, New Means*. Sixty-Eighth Yearbook, Part II, National Society for the Study of Education. Chicago: University of Chicago Press, 1969. pp. 378-79.

1961 to 1965 by the Samuel Bronfman Foundation of New York City. Since 1966 the 3M Company (Minnesota Mining and Manufacturing Company) has supported the continued development of the curriculum materials from this project.

Interpretation of Contents

As the title indicates, the SHE Study takes a conceptual stance in regard to the problem of curriculum. Three key concepts (the unifying threads) are growing and developing, interacting, and decision making, out of which emerge 10 concepts which reflect the scope of health education. The 10 concepts are expanded to 31 subconcepts.

From these key concepts, concepts, and subconcepts, goals are derived which are general guides for the outcomes of the program in health education. Lastly, the behavioral objectives formulated are specific and operational at four levels extending from kindergarten through grade 12. In addition, experimental materials on two concepts were developed and tried out. The results of these tryouts and the comments and reviews received from the experts served as the basis for a final revision of the conceptual design.

This project has drawn upon the competencies of teachers, professors of health education, the American Medical Association, experts in curriculum, and experts in the field of health. These experts were utilized when it seemed appropriate, e.g., calling upon medical authorities for judgments about the scientific accuracy of the concepts as well as the scientific accuracy of the instructional materials.

As a consequence of the support from the 3M Company, instructional materials will be published for the 10 concepts of the health education curriculum. Experimental research centers are in operation at Auburn University, in the Los Angeles area, at the University of Illinois, at Southern Illinois University, and in the metropolitan Washington, D. C., area. Other materials to be published include visual packets, student booklets on the concepts, and a student textbook series – all based on the conceptual design.

Teaching-Learning Guides for the four levels of progression of the objectives are being developed as well as a Teacher-Student Resource Booklet.

Criticism

No other curriculum project that this reviewer knows has made its conceptual design as clear as this project has. Furthermore, the conceptual design has utilized most of the best that is known about

curriculum planning. In addition, the entire conceptual structure has been evaluated for scientific accuracy by competent individuals in medicine, health, and health education.

What criteria can be utilized to evaluate a curriculum project? Unfortunately, no criteria for curriculum, be they for the curriculum or the instructional product, have been agreed upon by the profession.

However, two of the criteria formulated by Tyler and Klein* will be used for the purposes of illustrating their recommendations as well as for criticizing this study.

Criterion: "Objectives should be specified operationally, i.e., behavior responses of students."

The objectives in this volume have been stated according to criteria formulated by R. Tyler (i.e., behavior and content), but they do not meet the standards suggested by Mager. However, as this reviewer does not accept Mager's criteria, the objectives are adequately stated. The difficulty still arises, however, with regard to precision—some behaviors just are not clear, e.g., examining, analyzing. Unfortunately, even in the Teaching-Learning Guides, the objectives have not been defined more clearly, not even for illustrative purposes.

Criterion: "The value of the objectives must be substantiated."

How can the value of the objectives be substantiated? What kind of documentation is provided for the objectives which were formulated? There is considerable discussion in this volume about the nature of organized knowledge, concepts, and concepts as end results. After much thought, the reviewer concludes that the Health Education Study falls into the kind of curriculum project which would be classified as "subject matter" or a "discipline." And as is stated in the volume,

> health education is an applied field of learning that relies largely upon the knowledge of the physical, biological, and medical sciences and related fields for its subject matter and upon the application of behavioral science theory for its methodology.**

Certainly, subject matter is an important component of the curriculum, but is it as crucial as this study appears to make it? What troubles this reviewer, however, is whether other components basic to formulating objectives, i.e., the learner and the society, were utilized but not elaborated upon in this volume. To say it another way: Was the learner, his needs, interests, and concerns, a significant

---

*Reported in "Recommendations for Curriculum and Instructional Materials."
**p. 11.

source in the formulation of the objectives? This project seems to have focused on concepts and knowledge. Some clarification of this matter would be useful.

However, if asked the question: "Would you use this volume in planning curriculum at the elementary and/or secondary level?" the answer is an enthusiastic yes.

Dewey, John. *Experience and Education*. New York: Collier Books, 1963. 91 pp.

Analysis of Structure

This book elaborates on the place and meaning of experience in education.

There are five parts to this volume: I—the exposition of the oppositions between traditional and progressive education; II—the elaboration of the need for a theory of experience; III—criteria of experience; IV—educational issues discussed with regard to experience; V—a conclusion indicating the relationship of experience to education.

The author exposits a theory designed to encompass the problems encountered in curriculum and instruction.

Interpretation of Contents

Basic terms: traditional education, progressive education, criteria, continuity, interaction, social control, experience, educative, miseducative, freedom, purpose, objective conditions, internal conditions

Six leading propositions:

Mankind likes to think in terms of extreme opposites.

Experience and education cannot be directly equated with each other.

There is some kind of continuity in every case since every experience affects for better or worse the attitudes which help decide

the quality of further experiences by setting up certain preferences and aversions, and making it easier or harder to act to this or that end.

Interaction assigns equal rights to both factors in experience—objective and internal conditions.

The only freedom of enduring importance is freedom of intelligence, that is to say, freedom of observation and of judgment exercised on behalf of purposes that are intrinsically worthwhile.

What we want and need is education pure and simple. We shall make surer and faster progress when we devote ourselves to finding out just what education is and what conditions have to be satisfied in order that education may be a reality and not a name or slogan.

Dewey argues that there is one permanent frame of reference: the organic connection between education and personal experience. He goes on to indicate that the central problem is to select the kind of experience that lives fruitfully and creatively in subsequent experiences. Dewey then postulates criteria which he applies to issues of education.

Criticism

It is not possible for me to criticize *Experience and Education* because I cannot say with reasonable certainty that I understand. Therefore, I must suspend judgment.

It is probably useful to indicate briefly why I must suspend judgment. There are some questions which run through my mind, such as, Is experience all there is? Where does reasoning come from? Is reasoning experience? What is meant by "fruitfully" and "creatively" in subsequent experiences? Possibly, what I "must" say is that Dewey is misinformed, that is, that he asserts what is not the case. More precisely, some philosophers think there is something called reason. One of my difficulties is that I conclude I do not know of what experience consists. Also, I do not understand *what* Dewey means by "freedom of observation and of judgment exercised in behalf of purposes that are intrinsically worthwhile." And furthermore, I wonder *how he can even use that kind of language*. How can Dewey talk about purposes' being *intrinsically worthwhile*?

I can only follow through Adler's suggestion that, in order to understand and judge a practical book, one must know something about the character of the author and his life and times.

Project on Instruction. *Planning and Organizing for Teaching.* (Written by John I. Goodlad.) Washington, D. C.: Center for the Study of Instruction, a division of the National Education Association, 1963. 190 pp.

Analysis of Structure

This practical book deals with ideas and recommendations concerning curriculum and the environment of teaching and learning. The volume is devoted more to promoting inquiry and posing alternatives than to providing answers, although proposals for change are presented.

There are six parts to the book: I—values and data underlying the rest of the book; II—toward improved curriculum organization; III—toward improved school organization; IV—toward improved classroom organization; V—toward improved personnel, resources, time, and space organization; VI—concluding propositions with regard to goals, facilities, expectations, organization, curriculum, materials, and method.

This report deals with problems concerning planning and organizing for teaching based upon certain factors such as funded knowledge available, beliefs and values of people, and political structure.

Interpretation of Contents

Basic terms: values, objectives, organizing centers, organizing elements, vertical organization, horizontal organization, form, function, interclass grouping, nongrading, multigrading

Seven leading propositions:

The central aim of education is to develop rational men who do not sin against themselves and their kind.

The school curriculum should be planned to reveal continuing threads—ideas, generalizations, principles, concepts, methods—by means of which specific learnings might be related effectively one to another.

Teaching seeks to develop that which is already waiting.

The fact that very young children can learn relatively difficult aspects of science, mathematics, and other subjects is at best an incomplete answer to the question of whether they should learn them at that particular stage of their development.

Decisions about when to teach what should be based on both the learner's ability to understand and the relative importance of alternative ways of using the learner's time at any given point in his school experience.

The vertical organization of the school should provide for the continuous, unbroken, upward progression of all learners, with due recognition of the wide variability among learners in every aspect of their development.

The entire instructional resource setup should be viewed as a system, each part serving a unique function that cannot be served as well by any other part.

This volume deals with problems of curriculum and the teaching-learning environment and makes a series of recommendations pertinent to the problems.

Criticism

This report is valuable because curriculum is discussed in the context of the whole complicated issue of schooling. There are recommendations concerned with nongrading, with bases for ability grouping, with team teaching, with classroom grouping, with programed instruction, and the like.

A practitioner would find this volume helpful because it deals with many of the practical, yet significant, areas of concern in the relations between school, personnel, and the curriculum. Anyone interested in nongrading, ability grouping, or team teaching will find this a valuable document for the underlying theory and practice.

Raths, Louis E.; Harmin, Merrill; and Simon, Sidney B. *Values and Teaching: Working with Values in the Classroom*. Columbus, Ohio: Charles E. Merrill Books, 1966. 275 pp.

Analysis of Structure

The book presents a theory of values and a methodology (instructional strategy) which implements the theory.

There are four parts to the book: I—introduction and overview; II—a theory of values; III—the value-clarifying method; IV—using the value theory.

In order to reduce the confusion in the values of many children, the authors have formulated a theory of value and an appropriate methodology so that individuals can become more purposive, enthusiastic, and positive.

Interpretation of Contents

Basic terms: values, clarifying responses, clarifying strategies

Six leading propositions:

We cannot be certain what values or what life-style would be most suitable for any person. The process of valuing requires (a) choosing freely, (b) choosing from among alternatives, (c) choosing after thoughtful consideration of the consequences of each alternative, (d) prizing and cherishing, (e) affirming, (f) acting upon choices, and (g) repeating.

The basic strategy for developing values rests upon a specific method of responding to things a student does or says and is called a clarifying response.

Examples of clarifying responses are the following:

Is this something that you prize?
Was that something that you selected or chose?
Did you consider any alternatives?
What do you mean by - - - - -; can you define that word?
Did you say that . . . ? (Repeat in a distorted way.)

The first stage of a two-stage approach for getting started involves the teacher's giving some of the strategies a preliminary trial. The second stage is a systematic test.

Value clarification can result in more consistent attitudes and personal purposes.

Value clarification processes do make a difference in certain patterns of student behavior.

In general, students become more purposeful and active after being exposed to this strategy.

The authors argue that a clarifying response strategy related to values can improve patterns of behavior.

Criticism

This volume is essential for any educator interested in facilitating the development of individuals who are concerned and committed to values. Not all educators will accept the openness with which such value facilitation is to be achieved, but if acceptance is given

to valuing as a process, this is the best "how-to-do-it" book on the subject that I have seen.

Values and Teaching is clearly written and even deals with how to get started. It also summarizes research done and indicates necessary further research.

Schwab, Joseph J. *College Curriculum and Student Protest*. Chicago: University of Chicago Press, 1969. 303 pp.

Analysis of Structure

This book examines student protest and formulates a series of prescriptions in the light of resources available for treatment of curricular ills (disease).

There are three parts to the book: I—diagnosis; II—curricular resources; III—prescriptions: "practical," curricular, and "community."

Schwab contends with the problem of student protest and how curriculum work may help ameliorate it.

Interpretation of Contents

Basic terms: practical arts, curricular resources, arts of recovery, articulations, arts of enquiry, diagnostics, society, community, metacurriculum

Eight leading propositions:

Students are largely ignorant of the nature of "wants" and the extent to which "wants" misrepresent themselves.

The practical arts in their political aspect begin in two premises: (a) that institutions are normally to be preserved and changed, not destroyed, since it is only through institutions that political life can go on and action be effected and (b) that legitimate differences of interest exist among men, since institutions imply differences of members' roles and each role generates its peculiar needs.

Our students are almost entirely deprived of proper curricular occasions, especially sufficiently early, for discovery, assay, and exercise of their competencies with respect to form and structure,

coherence and cogency, evidence and argument, recovery and formulation of meaning.

If we are to consider engagement in enquiry as a curricular resource, however, the respectability of the product is not the point, and its production should not wait on developed competencies but, on the contrary, should be the means for their development.

If challenging materials are to serve their full complement of purposes, they cannot be merely challenging. They must also be representative of the problems and the methods of the disciplines they represent, and the meanings discovered from them should be meanings of consequence in the field.

Given the ugly start in schooling which most children suffer, it is not what a professor says which conveys what he expects of students, nor even what he himself is and does. It is what he asks for on examinations.

A college or university is a society and not a brotherhood. It is constituted of differentiated groups or classes and not one body of peers.

The effectively accessible faculty friend is one visible as a *man*, visible as one who could be helpful, who probably would help if asked, who *does not want* to help—a man of penetrable reserve.

Schwab argues that improved curriculum can help ameliorate student protest.

Criticism

This is a unique volume because it offers practical help for dealing with student protest. There has been much study about the causes of student unrest, but few, if any, of the studies have presented specific implications for school and curriculum as Schwab has.

Schwab's discussion about classroom interaction is realistic, fascinating, stimulating, and provoking ("Arts of Recovery," pp. 51-72). The brief outlining of fragments from two courses is equally exciting, fascinating, and liberating ("Overarching Disciplines and the Sampler," pp. 224-45).

The title of the book could lead one to infer that the ideas in this volume are pertinent only at the college level or about student protest, but such a view is too limited.

Miel, Alice. "Sequence in Learning: Fact or Fiction." NEA Elementary Instruction Service. Washington, D. C.: National Education Association, n.d.

Analysis of Structure

This brief leaflet on sequence in learning discusses some traps to be avoided and outlines some proposals to promote continuity in development.

There are four main sections: I—the setting of the problem; II—traps to be avoided; III—continuities in development; IV—arrangements for fostering continuity.

Miel deals with some of the shaky assumptions which guide decisions made about sequence in an instructional program. She suggests some helps which would facilitate development of the person.

Interpretation of Contents

Basic terms: sequence in learning, continuities in development, concepts, information processing, social relationships, open curriculum design

Six basic propositions:

It is dangerous to insist that great masses of children follow indefensible sequences in learning.

It is wrong to assume that all children necessarily go through the same sequence in arriving at a similar point of learning.

A learning sequence is an external affair, an ordered series that can be planned and provided by someone other than the person to be educated.

Continuity in the development of a person is an internal affair, a movement difficult to observe and one which cannot be managed by someone else.

A teacher who desires to promote continuity in the development of each young person in his charge will do well to take the children deliberately and openly into partnership.

If children are to make overall continuous progress in their development, their days must be varied and flexible.

Criticism

Sequence in curriculum has been inadequately conceptualized and inadequately researched. While this article does neither, it is

significant in discussing sequence from an insightful perspective. The significant focus throughout is the child—what he can tell us about his desires directly or indirectly through what is discovered by research studies with implications for sequence. Sequence has too long been thought of as a logical development of subject matter—it is time to investigate this conception thoroughly.

Tyler, Ralph W. "General Statement on Evaluation." *Journal of Educational Research* 35: 492-501; March 1942.

Analysis of Structure

This article outlines the purposes, assumptions, and general procedure of evaluation. The editor notes: "Measurement in a 'setting' is one of the important advances of the decade." The author describes the purposes, techniques, and assumptions in this important educational advance.

There are three major sections (I—purposes; II—underlying assumptions; III—evaluation procedure) and a concluding two-paragraph statement entitled "Continual Evaluation."

Tyler has conceptualized and synthesized the many facets of a major development in education.

Interpretation of Contents

Basic terms: evaluation, education, purpose, objectives, situation

Six leading propositions:

One important purpose of evaluation is to make a periodic check on the effectiveness of the educational institution, and thus to indicate the points at which improvements in the program are necessary.

Another important but frequently not recognized purpose is to validate the hypotheses upon which the educational institution depends.

It is assumed that education is a process which seeks to change the behavior pattern of human beings.

A second basic assumption in evaluation is that the kinds of changes in behavior patterns in human beings which the school or college seeks to bring about are its educational objectives.

The general procedure involves the following steps: (a) formulation of objectives; (b) definition of objectives; (c) identification of situations; (d) selection and trial of promising methods; (e) refinement and improvement of instruments; (f) devising means of interpretation.

Evaluation is an ends-means process. Ends (objectives) are to be formulated and the appropriate means are devised which are researched for effectiveness.

Criticism

This article, written more than 25 years ago, is beautiful in its simplicity. A number of aspects about evaluation were organized and synthesized into a very clear statement. Workers in the field even today will profit from this article. It is clearly written with apt examples. Articles in the field are still dealing with purposes, assumptions, and procedures. The evaluation process, no matter how comprehensively it is viewed, is at various points concerned with objectives and their degree of attainment. The only paragraph which seems to be extraneous is the concluding one on teacher education.

To evaluate Tyler's statement as to whether it works and leads to the right end is easy in one way, difficult in another. It works—there *is no question in my mind about that.* But does it work to the right end? The answer to this question is not clear.

Buros, Oscar K., editor. *The Sixth Mental Measurements Yearbook.* Highland Park, N.J.: Gryphon Press, 1965. 1714 pp.

The first publication in this series was in 1933 and 1934. It and the two publications in 1936 and 1937 were simply bibliographies of recently published tests. The first critical reviews of tests appeared in 1938.

This publication, the *MMY*, is thought of as a tester's Bible. In addition to the tests and reviews, the sixth yearbook includes books and reviews, a periodical directory and index, a publisher's directory

and index, an index of titles, an index of names, and a classified index of tests.

Any educator deciding to select a test should consult Buros for critiques. Using Buros along with the *Standards for Educational and Psychological Tests and Manuals* is a minimal check for selection and utilization of test materials.

American Psychological Association. *Standards for Educational and Psychological Tests and Manuals.* Prepared by a joint committee of the American Psychological Association, the American Educational Research Association, and the National Council on Measurement in Education. Washington, D.C.: the Association, 1966. 40 pp.

Analysis of Structure

This document outlines the standards for effective utilization of educational and psychological tests.

There are two parts to the booklet: I—development and scope of the standards; II—the standards. Part II has six subparts: dissemination of information; interpretation; validity; reliability; administration and scoring; and scales and norms.

Interpretation of Contents

Basic terms: validity, reliability, content validity, construct validity, criterion, norms, scales

Four leading propositions:

A test and its manual should be revised at appropriate intervals. While no universal rule can be given, it would appear proper in most circumstances for the publisher to withdraw a test from the market if the manual is more than 15 years old and no revision can be obtained.

The manual should report the validity of the test for each type of inference for which it is recommended. If its validity for some suggested interpretation has not been investigated, that fact should be made clear.

If the test manual reports on reliability or error of measurement, procedures and samples should be described sufficiently to permit a user to judge to what extent the evidence is applicable to the person and problems with which he is concerned.

The procedures for scoring the test should be presented in the test manual with a maximum of detail and clarity to reduce the likelihood of scoring error.

The Committee argues that test manuals should contain sufficient information to enable any qualified user to make sound judgments regarding the usefulness and interpretation of the test.

Criticism

The *Standards for Educational and Psychological Tests and Manuals* is of tremendous value to educators who want to select and utilize tests more effectively. Furthermore, it is helpful to those who wish to produce tests.

Because of the impact that these standards have had in the field of testing and evaluation, they served as a model for the formulation of recommendations for curriculum and instructional materials developed by Tyler and Klein. Also, the recommendations for programed instructional materials are in the same tradition.

There is a "tone" of responsibility throughout the volume which is noteworthy because it indicates the fundamental stance of concerned educators about tests.

> Psychological and educational tests are used in arriving at decisions which may have great influence on the ultimate welfare of the persons tested, on educational points of view and practices, and on development and utilization of human resources. Test users, therefore, need to apply high standards of professional judgment in selecting and interpreting tests, and test producers are under obligation to produce tests which can be of the greatest possible service. The test producer, in particular, has the task of providing sufficient information about each test so that the users will know what reliance can safely be placed on it.*

*p. 1.

Tyler, Ralph W.; Gagné, R. M.; and Scriven, M. *Perspectives on Curriculum Evaluation*. American Educational Research Association Monograph Series on Curriculum Evaluation, 1. Chicago: Rand McNally & Co., 1967. 102 pp.

Analysis of Structure

This book attempts to suggest what we should do in evaluation and how we should do it.

This monograph, written by three scholars (an educator, a psychologist, and a philosopher), is concerned with some basic ideas about how to evaluate a curriculum. Tyler illustrates the thesis that new problems, new conditions, and new assumptions have been introduced without reviewing the changes that they create in the relevance and logic of the older evaluation structure. Gagné presents a method for empirical checking of the feasibility of content in relation to learning. Finally, Scriven's article is a discussion of many issues in evaluation of the curriculum and an outline of dimensions of criterial variables. Because this is a collection of articles, there is little unity among the parts. The unity that does exist stems from the fact that all deal with curriculum evaluation.

Interpretation of Contents

Basic terms: content, curriculum, roles, formative, summative, evaluation, roles of evaluation, pay-off evaluation, intrinsic evaluation

Because the three authors involved did not deal with a common problem, the propositions may not hold together. It would be interesting to speculate on whether or not Tyler and Gagné would agree on the nature of learning. Six propositions emerge, however, which give some of the flavor of the volume:

Knowledge is constructed by individuals.

Learners must help to construct knowledge.

Content is the descriptions of the expected capabilities of students in specified domains of human activity.

Evaluation of the curriculum requires (a) putting it into use and (b) measuring the results in terms of student achievement or some other criterion.

Evaluation proper must include, as an equal partner with the measuring of performance against goals, procedures for the evaluation of goals.

External judgments as to the cohesiveness of the alleged goals, the actual content, and the test questions should be obtained at an intermediate stage in curriculum development.

Criticism

The analysis and interpretation of this volume make clear that there are three separate papers (Tyler, Gagné, Scriven) on evaluation presented in this volume. Because of the lack of focus on a narrowly defined problem, there is no unity to the monograph.

Of course, the volume is required reading because three insightful scholars have written on important aspects of curriculum evaluation. Unfortunately, Tyler's article is a "teaser." What is needed from him is a thorough elaboration of his thesis that "the accelerating development of research in the area of educational evaluation has created a collection of concepts, facts, generalizations, and research instruments and methods that represent many inconsistencies and contradictions because new problems, new conditions, and new assumptions are introduced without reviewing the changes they create in the relevance and logic of the older structure."

Gagné's presentation needs to be supplemented by additional means of implementation if it is to have much useful effect. Here a reading of Fenstermacher and Schwab ("The Practical: A Language for Curriculum") might be useful.

Scriven's essay is a reformulation of much of what has been known about evaluation for some time.

Unfortunately, none of the writers dealt with the question, "How good is the curriculum?"

Department of Elementary School Principals. *National Assessment of Educational Progress.* (Edited by Dorothy Neubauer.) Published in cooperation with the NEA Center for the Study of Instruction. Washington, D.C.: the Department, a national affiliate of the National Education Association, 1967. 32 pp.

Analysis of Structure

This pamphlet presents questions and comments on national assessment of educational progress.

The booklet is organized around 29 questions pertaining to the what's, who's, how's, and when's of national assessment. The Department of Elementary School Principals and the NEA Center for the Study of Instruction are making available answers and comments to questions raised by the education profession and the public. The attempt appears to be to make national assessment acceptable.

Interpretation of Contents

Basic terms: national assessment, census-like data, exercise, instruments, tryouts

Seven leading propositions:

A major purpose is to provide the lay public with census-like data so that sound policy about education can be developed.

As of 1967, more than 190 school administrators and 240 public school teachers from all parts of the country have been involved either in the formulation of objectives or in the criticizing and editing of exercises in the 10 areas.

A Technical Advisory Committee was employed to aid in planning the research studies and the thorough tryouts.

The national assessment of educational progress will be conducted on a sampling basis; it will not involve all schools and all children.

Throughout our country there is a similarity of educational objectives—and a diversity of means to achieve them.

Every objective meets three criteria:

1. It is approved by scholars as authentic.
2. It is accepted by school people as something the schools are seriously teaching.
3. It is endorsed by laymen in all parts of the country as something important for their children to learn.

It would seem, therefore, that the factors which could lead to a rigid curriculum—unchanging objectives and uniformity of educational methods—have long been recognized and accounted for.

Criticism

The controversy and the critical reactions to the whole issue of national assessment make this publication a valuable contribution. Many of the important questions have been dealt with in a very clear, straightforward manner.

Questions as to why "census-like data" are necessary, why new instruments had to be developed, and how the data that result may be used are all important. The explanations are clear and to-the-point.

Undoubtedly, this publication will not satisfy all of the criticisms raised about national assessment. However, some of the criticisms appear ludicrous and might wisely be ignored, i.e., the rapidity with which the notion of national assessment was operationalized. (Frankly, the 50-year incubation period for ideas in education has always been distressing.) This kind of criticism, however, is indicative of a "new arena" for education—the political.

Stake, Robert E. "The Countenance of Educational Evaluation." *Teachers College Record* 68: 523-40; April 1967.

Analysis of Structure

This article presents a conception of what evaluation can and should be. This conception involves both description and judgment as intellectual processes.

There are five sections in this article: I—introduction; II—contributions of evaluation to education; III—two processes of evaluation: description and judgment; IV—a model of evaluation; V—issues of evaluation.

The author presents a comprehensive conception of evaluation.

Interpretation of Contents

Basic terms: description, judgment, antecedents, transactions, outcomes, intents, observations, standards, judgments, contingencies, congruence

Six leading propositions:

Both description and judgment are essential. In fact, they are the two basic acts of evaluation.

Educational programs must be fully described and fully judged.

An antecedent is any condition existing prior to teaching and learning which may relate to outcomes.

The data for a curriculum are congruent if what was intended actually happens.

The evaluator who assumes responsibility for summative evaluation—rather than formative evaluation—accepts the responsibility of informing consumers as to the merit of the program.

The data gathering of evaluation should lead to decision making, not to troublemaking.

Criticism

Stake has not set forth in any definitive way the reasoning and/or data which underlie this conception of evaluation. Possibly it is somewhere in the literature but unknown to this annotator. As it stands, the model is most useful in mapping out a terrain which is considered an essential aspect of curriculum.

If this is in fact a practical article, some ultimate judgment must be made on two counts: (1) Does it work? and (2) Does it lead to the right end? It is impossible to know if the rules that might be derived from these notions "work." They appear very comprehensive but, as the first question cannot be answered, neither can the second.

Grobman's volume in the AERA monograph series indicates some of the complexities involved in the curriculum evaluation and can lead a reader to criticize Stake's model as being too abstract, too comprehensive, too scientific. For example, she points out that concern with sampling is critical since inadequacies will impose a limitation on the results. No simple rule can be set for sample size or composition.

It would be useful if some of the matters that Grobman discusses were attended to by Stake as they relate to his model. What is needed is an expansion of this statement. It may be considered to somewhat parallel Tyler's "General Statement on Evaluation."

What might also be useful would be the utilization of ideas from

Schwab ("The Practical: A Language for Instruction") and Fenstermacher. If principles about evaluation could be deduced from this model and rules formulated, a new direction in evaluation might result.

Pace, C. Robert. *Evaluation Perspectives: 1968.* Los Angeles: Center for the Study of Evaluation, University of California at Los Angeles, 1968. 20 pp.

Analysis of Structure

This article includes a historical summary of evaluation along with an outline of the nature of good evaluation depending on the size, scope, and duration of a project or course.

This article has three sections: I—an indication of the pervasiveness of and need for evaluation; II—an historical development of evaluation from 1930 to 1968 in terms of missionary emphasis and scientific emphasis; III—an outline of the kind of evaluation appropriate for present evaluation needs in terms of size, scope, and duration of projects.

Interpretation of Contents

Basic terms: objectives, missionary emphasis, evaluation, scientific emphasis, relevant evaluation, size, scope, duration

Two leading propositions:

When the unit to be evaluated is small in size, limited in scope, and short in time, then usually—

The treatment can be clearly and explicitly defined.

The treatment can be compared with alternate treatments or control groups.

The requirements of experimental design involving random assignment of subjects to treatments can usually be met.

The assumptions for statistical tests of significance, appropriate in a hypothesis-testing experiment, can usually be met.

Relevant evaluations can be—

1. Directly related to behaviorally defined objectives.

2. Designed as a hypothesis-testing experiment.
3. Largely limited to intended effects of the program or treatment.

As size, scope, and duration change—from small to large, simple to complex, and short to long—there are corresponding changes in the nature and the procedures of evaluation, relevant to the differing conditions.

Pace argues that the evaluator should be a neutral social scientist and that varying size, scope, and duration of projects necessitate changes in nature and procedures of evaluation. He has outlined a perspective of evaluation which is related to the problems of evaluation of schooling.

Criticism

Pace's article is a brief but clear presentation of a scientific conception of evaluation. It seems to be simpler than Stake's model and consequently may have some advantages. An attempt should be made to note where Pace and Stake intercept and unite.

Pace's goal to outline a conception of evaluation is desirable. Unfortunately this statement is brief (20 pages), and it is impossible to note how certain issues are handled. For example, the intellectual process of judgment is involved at many points in a large-scale evaluation project, even as Pace describes it, but how does the social science stance deal with it?

Possibly, this conception is incomplete because it views evaluation from an inadequate point of view. If evaluation were viewed as an art based upon science, some differing concepts might emerge.

Webb, Eugene J., and others. *Unobtrusive Measures: Nonreactive Research in the Social Sciences*. Chicago: Rand McNally & Co., 1966. 225 pp.

Analysis of Structure

This volume presents various methods which can be utilized to obtain social science data. There are three parts to this volume:

I—introduction; II—methods (physical traces, archives, observation); III—conclusion.

The authors wish to present novel methods for gathering data so that the social scientist's currently narrow range of utilized methodologies may be broadened and, further, to encourage creative exploitation of unique measurement possibilities.

Interpretation of Contents

Basic terms: internal validity, external validity, comparability, observation, hypothesis

Eight leading propositions:

The floor tiles around the hatching chick exhibit at Chicago's Museum of Science and Industry must be replaced every six weeks. Tiles in other parts of the museum need not be replaced for years. The selective erosion of tiles, indexed by the replacement rate, is a measure of the relative popularity of exhibits.

One investigator wanted to learn the level of whiskey consumption in a town which was officially "dry." He did so by counting empty bottles in trash cans.

Library withdrawals were used to demonstrate the effect of television on a community. Fiction titles dropped, nonfiction titles were unaffected.

Children's interest in Christmas was demonstrated by distortions in the size of Santa Claus drawings.

Once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced.

Absolute, isolated measurement is meaningless.

Measurement may always be regarded as a comparison.

There must be a series of linked critical experiments, each testing a different outcropping of the hypothesis.

The authors argue that what is needed is a conceptualization of method that demands multiple measurement of the same phenomenon or comparison. They present a number of novel methods that might stimulate the researcher to develop his own. The volume is also intended to stimulate and expedite thoughtful debate about the ethics of evaluation.

Criticism

This delightful book can have many implications for the research

done in curriculum as well as the kinds of evaluation methods which can be utilized. The cleverness and insight about human behavior which the authors reveal and their interest in novel methods are buttressed by sound conceptions of measurement and a great concern for the ethics of measurement.

Freud, Sigmund. *Collected Works*. Hogarth Edition

In *The Great Conversation*, a list of 10 years' reading in *Great Books of the Western World* is presented. There, readings from Freud first appear in the third year and then not again until the ninth and tenth years. I suggest that some Freud, possibly *The Origin and Development of Psychoanalysis, Civilization and Its Discontents, The Ego and the Id*, and *Beyond the Pleasure Principle*, be read earlier. (These can all be found in Volume 54 of the *Great Books of the Western World.)*

Freud has been ranked with Copernicus and Darwin. His central focus was on man, and his conceptions are profound.

Erikson, Erik. *Childhood and Society*. Second edition. New York: W. W. Norton and Co., 1963. 445 pp. (Chapter 7 annotated here.)

Analysis of Structure

This theoretical book presents a conception of personality development in the human life cycle. More particularly, it represents an elaboration of ego qualities which emerge from critical periods of human development by which the individual demonstrates that his ego is strong enough at a given stage to integrate the timetable of the organism with the structure of social institutions.

Only the seventh chapter is being annotated here. There are nine sections to this chapter. The first eight are titled according to the

stages of the human cycle: (1) basic trust *vs.* mistrust; (2) autonomy *vs.* shame and doubt; (3) initiative *vs.* guilt; (4) industry *vs.* inferiority; (5) identity *vs.* role confusion; (6) intimacy *vs.* isolation; (7) generativity *vs.* stagnation; and (8) ego integrity *vs.* despair. The ninth section consists of explanatory material on the life cycle.

The author deals with the formulation of a conception of development of personality.

Interpretation of Contents

Basic terms: trust, autonomy, initiative, industry, identity, intimacy, generativity, ego integrity

Four leading propositions:

The human personality develops according to steps predetermined in the growing person's readiness to be driven toward, to be aware of, and to interact with, a widening social radius.

Psychosocial development proceeds by critical steps.

Turning points and moments of decision between progress and regression, integration and retardation, are characteristically critical.

Sense of industry: The individual adjusts to the inorganic laws of the tool world. His ego boundaries include his tools and skills; the work principle teaches him the pleasure of work completion by steady attention and persevering diligence. The child's dangers at this stage lie in a sense of inadequacy and inferiority. If he despairs of his skills he may be discouraged from identification with them.

Erikson argues that this conceptual model is a tool to assist thinking. It is global, and details of methodology and terminology are left to further study.

Criticism

In 1950 Erikson's conceptual scheme was first presented to educators at a White House Conference on Education. Gradually, it is receiving increased attention.

Erikson's conceptual scheme is not as acceptable to most educators as some other conceptions of child development because it is not permeated with a success ideology, but it nevertheless appears to be much more acceptable than Freud's. In my judgment the schema is more fruitful than any other currently discussed and

should be widely utilized. While anchored in Freudian psychology, Erikson also discusses behavior in a social context and elaborates ego notions clearly. (Most educators find cognitive aspects of development easier to assimilate; Piaget has been widely utilized in the field. Recently, such writers as Rogers and Maslow have received much attention from some educators concerned with interpersonal relations.)

Some articles utilizing Erikson's scheme have appeared in the literature. They are, however, most tentative.

4. Considerations for Today and Tomorrow

This chapter reflects many of my ideas about curriculum, both the ones I held prior to doing this bibliography and the ones which have emerged as a consequence of three months' intensive reading and reflection. There has been much thought given to the references which have been annotated.

The balance of this chapter will be devoted to a discussion of some promising directions now appearing in curriculum literature and then, to some needs in the field.

PROMISING DIRECTIONS

Ideas

An outstanding contribution to education and to curriculum is the conception of Maritain and others that education is an art based upon science. The idea that teaching is a cooperative art is discussed in the topic "Education" in the *Syntopicon*. Schwab's excellent and provocative statement in "The Practical: A Language for Curriculum" elaborates upon the proposition that curriculum theory is moribund and very briefly explores the value of the deliberative arts for curriculum. His discussion of the difficulties involved in utilizing theory is accurate, and his suggestions, if utilized, could advance the field of curriculum.

Other currently valuable scholarly work is of the type that Fenstermacher utilizes in "Need-Achievement Theory and Practice: A Transformation." He elaborates upon the intellectual process involved in moving from a principle of need achievement to the practice of instruction in a classroom. Many articles have presumably outlined some practice on the basis of reinforcement theory, curriculum theory, philosophic theory. Confusion results when differing practices can emerge from one particular theory. Fenstermacher's article shows how this can happen. Also, he elaborates a sequence

of steps involved in going from theory to practice that may increase the effectiveness of any resultant formulated practice.

Fortunately, also, a few papers are presenting divergent concepts about the kind of scholarly work which will advance education. In "Some Limitations of Basic Research in Education," Ebel indicates that basic research has not been particularly effective and that applied research is needed. His idea that scientific investigation of education has not been very productive is akin to Schwab's thoughts about the moribund state of curriculum theory. Goodlad's paper on "Thought, Invention, and Research in the Advancement of Education" suggests that problems to be investigated must grow out of the practices of the field and that the educational practices are also the final test of value of all research. The significance here is that the fundamental problems of the real world must be the basis for investigation if we are to advance the field.

In the same vein, Stake has formulated some interesting suggestions for studying evaluation. He thinks diverse methods should be utilized, such as anthropological and historical ones. Furthermore, in his analysis, description and judgment are the two essential processes of evaluation. Judgment is an aspect too often minimized or overlooked.

Clarity of Exposition

Some of the writers who are remarkably effective in presenting readily comprehensible ideas are Benjamin Bloom, Robert Ebel, John Goodlad, Robert Stake, and Ralph Tyler. It is not that the ideas about which they write are simple or uncomplicated; rather, their clear exposition makes it possible to think about the ideas without the added distraction of imprecise language.

Dialogue

Dialogue is essential in a world where knowledge accumulates rapidly and where social and intellectual problems are profound. Dialogue requires that individuals be open and that attempts be made by all to understand what others are attempting to say. In this way, advance in a field can be achieved, particularly if the listener also tries to help the speaker clarify what he is attempting to say. One attempt at dialogue on a controversial topic is reported in the AERA third monograph on instructional objectives.

NEEDS

Reported Doubts

It is strange that there are few writings in curriculum or in education in which scholars indicate their doubts or puzzlements about the problems or issues which they are exploring. (We could profit from the message conveyed in the song, "It's a Puzzlement," from *The King and I.*) Possibly the desire for certainty, for quick approval, and for nice, clean studies involving a neatly stated problem, appropriate data, and logical conclusions mitigates against investigating difficult or significant problems. Education and curriculum could profit from investigation which is real and which reports situations as they are. Profound problems in other areas, such as medicine and space, are not solved overnight or in two weeks in neat, tidy ways. We must learn to tolerate the untidyness of life and to report both our successes *and* our failures.

Exploration of Curriculum as the Practical

Schwab's article about the unhappy state of curriculum is convincing in its argument for reflection and exploration of the practical. Fenstermacher's work is also basic to this exploration. Curriculum could profit from interdisciplinary and cooperative work, particularly among philosophers and curriculum workers. Philosophic inquiry is greatly needed.

Issues for Exploration

Some topics in curriculum are subject to more investigation than others. Recently, the matter of objectives has been receiving major attention. An issue of a journal, several symposia, a monograph, and a book all treat the topic. The topic may warrant that much attention, depending upon the issues raised and how they are dealt with, but some attempt must be made to select additional topics and problems and to formulate related questions in significant ways. If experimented with, the formulation of problems would probably result in new and unusual ways of conceptualization. Dewey, in *Experience and Education,* reformulated a problem about subject matter concerned with the past this way: "How shall the young become acquainted with the past in such a way that the acquaintance is a potent agent in appreciation of the living present?" I am hopeful of what can result from Carroll's redefinition of aptitude reported in "A Model for Learning."

It is essential, however, that the more important problems and questions be investigated. Without being unduly rhetorical, some problems and questions are more important than others. Formulating significant goals for schools or schooling is a most important task for a faculty, yet little time or energy is spent on this task. Also, there are few articles in which the formulation of goals is of central interest.

Finally, the erroneous idea that scholarship is value-free must go. Valuing enters into all facets of intellectualizing. For example, Stake and others point out that evaluation necessitates description and judgment, but nowhere is there any elaboration of what is involved in judgment. Most discussion of evaluation concentrates on its descriptive aspect. And, of course, there is no discussion of the implicit valuing involved in the decisions made about what is to be described. It is as though deciding categories, selecting tests, and setting cut-off scores are all value-free activities. Nonsense!

Terminology

The terminology of curriculum must be clarified. A few terms which appear to need immediate attention are *decision making, rational, judgment, art,* and *science.*

An Entreaty

Finally, I close with this entreaty: While conceptions and methods can be borrowed from other fields and should be, if they are appropriate, it is only as we solve our own problems in our own way that we will advance curriculum inquiry.

Appendix 1.
Author Index
to Annotated References

American Educational Research Association. "Curriculum Planning and Development" 47
_____. *Evaluation Activities of Curriculum Projects* 69
_____. *Instructional Objectives* 68
_____. *Review of Educational Research* 47
_____. *Perspectives on Curriculum Evaluation* 114
American Psychological Association. *Standards for Educational and Psychological Tests and Manuals* 112
Association for Supervision and Curriculum Development. *Yearbooks* 39
Association for Supervision and Curriculum Development, Commission on Instructional Theory. *Criteria for Theories of Instruction* 53
Barton, George E., Jr. "Educational Objectives—Improvement of Curricular Theory About Their Determination" 76
Beauchamp, George A. *Curriculum Theory* 44
Bellack, A. "Knowledge Structure and the Curriculum" 91
Bettelheim, Bruno. "Autonomy and Inner Freedom: Skills of Emotional Management" 39
Black, Max. *Models and Metaphors* 62
Bloom, Benjamin S. "Learning for Mastery" 58
_____. "Some Theoretical Issues Relating to Educational Evaluation" 37
_____, editor. *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain* 79
Bobbitt, Franklin. *How To Make a Curriculum* 71
Broudy, Harry S.; Smith, B. Othanel; and Burnett, Joe R. *Democracy and Excellence in American Secondary Education* ... 65
Bruner, Jerome S. *The Process of Education* 87
Buros, Oscar K., editor. *The Sixth Mental Measurements Yearbook* 111
Carroll, John B. "A Model of School Learning" 56
Caswell, Hollis. "Sources of Confusion in Curriculum Theory" 59
Center for the Study of Instruction. Publications 41
Department of Elementary School Principals. *National Assessment of Educational Progress* 116

Dewey, John. *Experience and Education* 102
Ebel, Robert. "Some Limitations of Basic Research in Education" 51
Encyclopaedia Britannica. *The Great Ideas: A Syntopicon of Great Books of the Western World* 43
Erikson, Erik. *Childhood and Society* 122
Faix, Thomas L. "Structural-Functional Analysis as a Conceptual System for Curriculum Theory and Research: A Theoretical Study" 48
Fenstermacher, Gary. "Need-Achievement Theory and Educational Practice: A Transformation" 61
Fraser, Dorothy M. *Current Curriculum Studies in Academic Subjects* 92
Freud, Sigmund. *Collected Works* 122
Goodlad, John I. "Thought, Invention, and Research in the Advancement of Education" 49
Goodlad, John I., with Richter, Maurice N., Jr. *The Development of a Conceptual System for Dealing with Problems of Curriculum and Instruction* 29
Goodlad, John I.; Stoephasius, Renata von; and Klein, M. Frances. *The Changing School Curriculum* 77
Grobman, Hulda. *Evaluation Activities of Curriculum Projects*. 69
Herrick, Virgil E. *Strategies of Curriculum Development* 74
Huebner, Dwayne. "Curricular Language and Classroom Meanings" 34
_____. "Curriculum as a Field of Study" 32
Johnson, Mauritz, Jr. "Definitions and Models in Curriculum Theory" 46
Joint Committee on Programed Instruction and Teaching Machines. Chairman, Arthur A. Lumsdaine. *Recommendations for Reporting the Effectiveness of Programed Instructional Materials* 96
Joyce, Bruce R. *The Teacher and His Staff: Man, Media, and Machines* 63
Krathwohl, David; Bloom, Benjamin S.; and Masia, Bertram. *Taxonomy of Educational Objectives, Handbook II: Affective Domain* 81
Loree, M. Ray. "Relationship Among Three Domains of Educational Objectives" 84
Macdonald, James B. "Myths About Instruction" 30
Mager, Robert F. *Preparing Instructional Objectives* 72
Maritain, Jacques. *Education at the Crossroads* 66

Miel, Alice. "Sequence in Learning: Fact or Fiction" 109
National Society for the Study of Education. *Yearbooks* 37
Pace, C. Robert. *Evaluation Perspectives: 1968* 119
Payne, Arlene. *The Study of Curriculum Plans* 93
Phenix, Philip. "Key Concepts and the Crisis in Learning"..... 86
Popham, W. J., and Baker, Eva L. *Rules for the Development of Instructional Products* 95
Popham, W. J., and others. *Instructional Objectives* 68
Project on Instruction. *Planning and Organizing for Teaching*.. 104
Raths, Louis E.; Harmin, Merrill; and Simon, Sidney B. *Values and Teaching: Working with Values in the Classroom* 105
School Health Education Study. *Health Education: A Conceptual Approach to Curriculum Design* 99
Schwab, Joseph J. *College Curriculum and Student Protest* 107
_____. "The Practical: A Language for Curriculum" 36
_____. "Structure of the Disciplines: Meanings and Significances"..... 89
Simpson, Elizabeth Jane. "The Classification of Educational Objectives, Psychomotor Domain" 83
Skinner, B. F. "The Science of Learning and the Art of Teaching" 54
Stake, Robert E. "The Countenance of Educational Evaluation". 117
Tyler, Louise L., and Klein, M. Frances. "Recommendations for Curriculum and Instructional Materials"..... 98
Tyler, Ralph W. *Basic Principles of Curriculum and Instruction* 27
_____. "General Statement on Evaluation" 110
Tyler, Ralph W.; Gagné, R. M.; and Scriven, M. *Perspectives on Curriculum Evaluation*..... 114
Webb, Eugene J., and others. *Unobtrusive Measures: Nonreactive Research in the Social Sciences* 120

Appendix 2. Title Index to Annotated References

Association for Supervision and Curriculum Development *Yearbooks* 39
"Autonomy and Inner Freedom: Skills of Emotional Management" 39
Basic Principles of Curriculum and Instruction 27
The Changing School Curriculum 77
Childhood and Society 122
"The Classification of Educational Objectives, Psychomotor Domain" 83
College Curriculum and Student Protest 107
"The Countenance of Educational Evaluation" 117
Criteria for Theories of Instruction 53
Current Curriculum Studies in Academic Subjects 92
"Curricular Language and Classroom Meanings" 34
"Curriculum as a Field of Study" 32
"Curriculum Planning and Development" 47
Curriculum Theory 44
Deciding What To Teach 41
"Definitions and Models in Curriculum Theory" 46
Democracy and Excellence in American Secondary Education. 65
The Development of a Conceptual System for Dealing with Problems of Curriculum and Instruction 29
Education at the Crossroads 66
Education in a Changing Society 41
"Educational Objectives—Improvement of Curricular Theory About Their Determination" 76
Evaluation Activities of Curriculum Projects 69
Evaluation Perspectives: 1968 119
Experience and Education 102
"General Statement on Evaluation" 110
The Great Ideas: A Syntopicon of Great Books of the Western World 43
Health Education: A Conceptual Approach to Curriculum Design 99
How To Make a Curriculum 71
Instructional Objectives 68

"Key Concepts and the Crisis in Learning" 86
"Knowledge Structure and the Curriculum" 91
"Learning for Mastery" 58
Major Reports of the Project on Instruction 41
"A Model of School Learning" 56
Models and Metaphors 62
"Myths About Instruction" 30
National Assessment of Educational Progress 116
National Society for the Study of Education *Yearbooks* 37
"Need-Achievement Theory and Educational Practice: A Transformation" 61
Perspectives on Curriculum Evaluation 114
Planning and Organizing for Teaching 104
"The Practical: A Language for Curriculum" 36
Preparing Instructional Objectives 72
The Process of Education 87
"Recommendations for Curriculum and Instructional Materials" 98
Recommendations for Reporting the Effectiveness of Programed Instructional Materials 96
"Relationship Among Three Domains of Educational Objectives" 84
Review of Educational Research 47
Rules for the Development of Instructional Projects 95
Schools for the Sixties 41
"The Science of Learning and the Art of Teaching" 54
"Sequence in Learning: Fact or Fiction" 109
The Sixth Mental Measurements Yearbook 111
"Some Limitations of Basic Research in Education" 51
"Some Theoretical Issues Relating to Evaluation" 37
"Sources of Confusion in Curriculum Theory" 59
Standards for Educational and Psychological Tests and Manuals 112
Strategies of Curriculum Development 74
"Structural-Functional Analysis as a Conceptual System for Curriculum Theory and Research: A Theoretical Study" ... 48
"Structure of the Disciplines: Meanings and Significances" 89
The Study of Curriculum Plans 93
Taxonomy of Educational Objectives, Handbook I: Cognitive Domain 79
Taxonomy of Educational Objectives, Handbook II: Affective Domain 81
The Teacher and His Staff: Man, Media, and Machines 63

"Thought, Invention, and Research in the Advancement of Education" 49
Unobtrusive Measures: Nonreactive Research in the Social Sciences 120
Values and Teaching: Working with Values in the Classroom .. 105

Appendix 3. Individuals Who Responded with Suggestions for the Annotated Curriculum Bibliography

Benjamin S. Bloom, University of Chicago
John I. Goodlad, University of California, Los Angeles
Thomas Hastings, University of Illinois
John Herbert, Ontario Institute of Graduate Studies
Dwayne Huebner, Teachers College, Columbia University
Ronald Hyman, Rutgers University
Mauritz Johnson, Cornell University
Bruce Joyce, Teachers College, Columbia University
James Popham, University of California, Los Angeles
Elena Sliepcevich, School Health Education Study, Washington, D.C.
Ralph W. Tyler, Science Research Associates, Chicago
Elizabeth C. Wilson, Montgomery County Schools, Rockville, Maryland

ABOUT THE AUTHOR

Described by her students as a superb teacher whose intellectual rigor and honesty pervade the classroom, Louise Tyler brings exceptional qualifications to the volume she was asked to prepare for the NEA's SCHOOLS FOR THE 70's Auxiliary Series. The result is *A Selected Guide to Curriculum Literature: An Annotated Bibliography*. On the staff of the University of California at Los Angeles since 1959, she currently holds the position of associate professor of education in the area of curriculum and instruction.

Perhaps the fact that Dr. Tyler earned all her degrees through the doctorate at the University of Chicago has contributed to her provocative scholarship, both in the classroom and in her writing. With students, her approach is primarily that of interrogator—she raises questions and provides few answers. In her writing, she speaks her mind, with the confidence of her own viewpoint and the knowledge that many will disagree.

Dr. Tyler is a native of Chicago. Earlier in her career she served as director of research and curriculum at Waukegan Township High School in Waukegan, Illinois, and as director of evaluation at Chicago Teachers College. Her special interests at this time center on the implications of psychoanalysis for education, and developing recommendations to evaluate curriculum and instructional materials.